Electronics Chief

John D. Campbell, 47-year-old general manager of the consumer products division, Canadian Westinghouse Co., Hamilton, Ont., recently was elected president of the Radio-Electronics-Television Manufacturers Association of Canada. As RETMA chief, he heads a 118-company group, representing an industry—including supporting services — producing $500 million a year. He takes office as the electronics industry is expanding at more than three times the rate of the gross national product.

THE NATION'S BUSINESS

Review Trade Policy Despite Minor Gain

The methods of warfare which brought fame to General Eisenhower as a soldier are clearly no help to him as a president. The war of rapid movement and air blitzes is out of the question in the continual fight between administration and Congress. Eisenhower is thrown back to the slow, plodding methods of trench warfare which Pershing knew.

This is the soldier's nearest parallel to the means Eisenhower has had to adopt to try to get U. S. trade policy more into line with the endless professions of successive U. S. administrations.

In 1953 and again in 1954 the Eisenhower administration pushed minor customs simplification bills through Congress. It gained a few yards of ground, but was always pushed back from the important salient which was the method of valuing imports for duty purposes.

Now, with better planning and more careful preparation, the salient has been gained. The law is changed, and Canadian goods will no longer be valued according to the unrealistic and foolish interpretation of "foreign value" which has prevailed until now.

This is a thoroughly useful gain. But it is the sort of small local victory which the official communiques tend to exaggerate.

Stalemate Continues on Basic Issue

On the major front between liberal traders and protectionists the 1956 session of Congress has produced nothing but stalemate. On the crucial bill to approve the organization for trade co-operation, with which is associated the whole reciprocal trade program, the president has dared to attempt no advance. His scout parties met such opposition that it was judged more prudent to hold the line as it is rather than risk an advance which might have ended by losing the whole position.

So the local advance on customs simplification is the only gain from the 1956 Congress; and its value cannot be fully determined yet because of the harrassing fire which may still come from a shrewd senate amendment.

The administration, in a sense, asked for this one. To help the bill through, the U. S. Treasury pulled out some sample customs entries in certain groups of imports, and told the Congress that the value for duty would not generally be reduced by more than 5%. The senate took it at its word and wrote in an amendment to insist that the value must not be reduced by more than 5%.

So the Treasury has to compile a list of goods where the changed definitions of valuation would give an importer something better than this marginal advantage; and the bill will not apply to any goods on that list. We can hope that the list won't be too severe.

A local and limited attack has had considerable, but not complete, success. That is a reason for satisfaction; it's not a reason to celebrate as though the campaign had been won.

Once again Canada has very good reason to give hard thought to revision of our basic commercial policies. We've been kidding ourselves for a long time that U. S. policy was on the verge of important change.

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Avoiding Rule by Pressure Groups

An MP is a man sent to Parliament to use his own judgment no matter where it leads him. He is not sent there to sit in his office and take dictation from constituents, by letter, phone or telegram, as to what he should say or how he should vote.

This is by way of comment on the decision of W. Ross Thatcher, MP for Moose Jaw-Lake Centre, to sit with the Liberals in the House of Commons though he was elected as a CCF candidate.

Undoubtedly some of Mr. Thatcher's constituents are displeased and have said so. Under the Parliamentary system he has no obligation to be governed by their complaints.

Of course an MP is a "representative." This means that his general opinions, having been put before the voters, have proved acceptable to a majority. It doesn't mean that his electors have a right to instruct him thereafter. They have handed over to him the responsibility of using his vote and influence in the House as he sees fit.

Edmund Burke made the classic statement of the case in a speech to his own constituents in Bristol. "You choose a member indeed; but when you have chosen him, he is not a member of Bristol but a member of parliament."

And again: "It ought to be the happiness and glory of a representative to live in the strictest union . . . and the most unreserved communication with his constituents" but "your representative owes you, not his industry only, but his judgment and he betrays instead of serving you if he sacrifices it to your opinion."

The voters, of course, always have the last word. There is always another election ahead. If an MP acts in such a way as to lose the confidence of a majority in his riding he won't hold his seat. Mr. Thatcher can submit to this test by offering himself as a Liberal candidate when a new House is chosen.

Meanwhile his action illustrates the important point that Canada doesn't have government by referendum, or by a constant stream of messages and mail from pressure groups and constituents. Canadian MPs, fortunately do not bow to the mass technique ("wire your MP at once"). Here is a big difference between the Canadian and American ways of government.

The Acrobatic Copper Stocks . . . p. 15

The Seaway: Ditch of Destiny . . . pp. 29-64

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'Get Hot' is Plea From Retail Stores

Some Real, Old-Fashioned Hot Weather Can Save Summer Sales; In Some Lines It's Too Late But Now Is Mid-Season Turning Point

By RODNEY TOUCHE

"When's the summer coming?"

In retail stores across Canada this week you'll hear that anxious question.

Weather has been cool, wet, uninviting. Only bright time was June, when the sun sparked summer season sales. But March, April, May, July temperatures were well below normal.

Summer goods retailers are wistfully recalling the dragged-out, sweltering, moist days of 1955. At times it was almost too hot to shop and total sales suffered. When cool days did come, business thrived.

This week is the mid-season turning-point when the people who sell summer goods evaluate the hope they have left. Air conditioner salesmen have just about given up. Big-ticket money is going on other, non-season luxuries. Ice cream dealers are still hopeful.

Here's the analysis:

Air conditioners, light weight suits: Sales are down all over Canada, but not by very much. Memories of hot days and nights in 1955 sparked sales of these big ticket items when the first hot spell of 1956 arrived in June. But now, say retailers, it's too late to hope for a killing. Sales have slowed to a trickle.

Electric fans, sunburn lotion, ice cream: General estimate is that sales are 20% down on the same period last year. But a hot spell this August would still be in time to bring a boost to former levels. The hot spell is promised in the long-range forecasts, say the optimists in the business.

Summer sports clothes, light summer dresses are still lingering in the shops although fall lines are beginning to crowd in. Sales picked up last week when the thermometer gave a hint to holiday makers. But over-all, sales are running below last year.

Bathing suits, outboard motors, luggage, tourist items are selling well above last year's figures. These are the items that enjoy a seasonal boost despite the temperature provided there is plenty of money about, say retailers.

Candy, soft drinks are selling better than expected. Candy manufacturers took a beating at the beginning of the year, according to latest DBS reports. But the position has changed in the last two months, and junior's dime has been spent on candy instead of ice cream. King-size bottles have boosted sales gallonage of all soft drinks. But in the beverage business they claim it could have been even better if it had been hot.

Here is a region-by-region picture across Canada:

Ontario

TORONTO — Downtown stores have increased business, which has fallen off slightly in outlying districts. Women's clothing sales have slackened, men's clothing resorting to keen price cutting. Meat, poultry and confectionery are in good demand. Department store business increased 13.2% over the same period last year.

Reporting on the china and jewelry business J. F. Ellis, president, **Henry Birks and Sons (Ontario) Ltd.,** says: "Trade has been less brisk but dollar volume is up." Items that have been selling well: expensive dinner sets, valuable china and silver, diamond-set watches. The buyers: Canadians.

Simpsons-Sears mail order sales are "moderately above a year ago levels." But they would have been better if the temperature had stayed in the 80s. **Eaton's** summer

(Continued on page 8, col. 3)

How Much Will Steel Rise? Rule of Thumb Says $8

For charts of steel wages, prices, profits, see p. 3.

BY JACK McARTHUR

There is a rule of thumb that a cent boost in labor cost means a 40c steel hike. If so, the price of steel would go up $8 in Canada and $8 to $10 a ton in the U. S.

Will the rule of thumb apply? That's the question business was asking this week, as it studied the possible impact of the steel settlements.

And consumers wondered how far increased steel cost will push up items with high steel content —cars, appliances and the like.

And government and private economists pondered the effect of higher steel prices added to other inflationary prods. In Canada, rising food prices and an immense capital expansion program already are helping push cost indexes up.

There's plenty of speculation about how much the steel rise will be. One informed guess: An average increase in both Canada and the U. S. of from $6 to $8 a ton.

The situation:

• In Canada, **Steel Co. of Canada** statisticians and officials were working furiously to determine how much a two-year, 36c hr. labor settlement will raise costs. The new contract with Steelworkers Union is worth about 20c in the first year.

Stelco must also take into account higher raw material costs and the need to protect its profit position to ensure completion on schedule of a three-year, $100 million expansion plan. Stelco sets the pattern for the Canadian basic steel industry.

(Continued on page 3, col. 1)

$8 Steel Rise Could Mean $50 More On Car

What does a steel price increase mean?

Here's an example:

If the average cost of steel goes up, say, $8 a ton, the cost of steel in an auto rises possibly $15, in a refrigerator by as much as $1.

This, of course, isn't the whole story. It's a general rule that when steel goes up, most other costs also rise. And the steel-user, to maintain his rate of profit as compared with gross, needs a higher profit per unit.

Thus many experts contend that an $8 steel hike means a $50-$75 rise for a car and $5 more for a refrigerator. Whether this is actually passed on to the consumer is determined by the producer and—more importantly —by market conditions.

"Hope It's Not Too Late"

Top Government opinion in Ottawa, increasingly worried about rising prices, welcomes the new tightness of the money supply, hopes it is not too late.

"This is where we wanted to get at least two months ago," was the comment.

If Bank of Canada thinking coincides with the present direction of Government thinking, then there will be no expansion of the money supply this autumn.

If shortages continue to grow, and prices continue to rise, in the next few months, then it is believed all the brakes must be clamped down hard. "We've been through the inflationary wringer twice in recent years," it is said. "Surely we must avoid doing it again."

Here are the latest reasons for the mounting concern about prices:

• The Wholesale Price Index reached a new high in June, continuing an almost steady climb which has been going on since the end of 1954 with only two minor checks. It's now at 226.5, compared with 218.7 in June, 1955. Chief increases were in farm products, specially animal products, which are creeping back to year-ago levels after being the chief element of softness in the over-all price picture.

• Building materials also continued to creep upward in June, a small increase but one that has been going on steadily for more than twelve months.

• Rises are now working through into the Consumer Price Index, which reached 117.8 in June, compared with 115.9 a year ago.

• In Canada itself the mid-year survey of capital intentions, with its warning that the program was beyond the bounds of physical capabilities, must have contributed.

The trend of U. S. interest rates is particularly important, because unless they keep roughly in step with rising Canadian rates they can frustrate the Bank of Canada's attempt to discourage new borrowers. A rise in Canadian rates may merely bring in U. S. money to stoke the furnace which Ottawa is trying to damp down.

If the monetary authorities here decide that some extra funds should be available for the ex-

(Continued on page 3, col. 1)

Bet $12 Million On Canada's Sound Future

By CLIFFORD FOWKE

Shrewd businessmen have bet another $12 million in recent weeks on a continued rapid pace in Canada's basic industrial growth.

A series of projects launched in Canada in quick succession has special significance, because:

• They represent long-term investment after independent investigation and survey by some of the world's biggest manufacturing concerns from places as far apart as Paris, France; Essen, Germany; and Erie, Pa.

• The new projects are dependent on the continuing growth of our basic economy as represented by mining, steel production and the development of road, power, water and other services.

Another important aspect of the new projects is that the great majority are steel-consuming, and promise a major market expansion in the next year or so for basic steel producers.

These are among the new projects:

Ardelt Industries, Kitchener, Ont., subsidiary of the German steel giant, **Krupps,** plans to add mining equipment including ball and rod mills, to its production within a year. Later, it will start

(Continued on page 3, col. 5)

TOO MANY DOLLARS?

Now's Crucial Time In Inflation Fight

By MICHAEL BARKWAY

OTTAWA (Staff) — The long expansion of Canada's money supply has been halted. The increase in bank loans has flattened out to a near-level line. Interest rates have been rising. The chartered banks ended July in a very tight cash position—much tighter than the published averages reveal.

These facts constitute a crucial change in Canada's monetary position. And they pose a major question over the next few weeks: What will happen if Canadian business wants more credit from the banks, as it usually does in early fall?

From where we stand today it looks as though the banks will not be able to undertake any significant increase in their total loans unless the Bank of Canada makes more cash available. The credit squeeze hadn't really squeezed the money supply until this month. Now it has.

The shortage of funds, which had been felt only in spots within a continuing total expansion, is now general. Money at last looks tight all the way through the piece. What next?

Nobody knows how much, in the final resort, official policy had to do with last month's decisive turn. Many other factors contributed:

• The steel strike with its reduction of inventories may have meant some repayment of bank loans.

• The revised view of U. S. investors about their country's economy probably contributed to the decline in the U. S. bond market.

• And the consequent rise in interest rates in the U. S. was an important factor in the rise in Canadian rates.

More Good News For Nickel Stocks

New U.S. Policy of Premium-Price Incentives Makes International Nickel Mining Project Certainty; Will Prod Widespread Development

By FRANK KAPLAN

Development of a giant nickel mining empire in Manitoba by **International Nickel Co. of Canada** (FP, July 28) is practically assured with announcement of new premium-price incentives for nickel production to be paid by the U. S.

The new U. S. policy announced this week provides for negotiation of premium prices above present 64.5c a lb. level for new production of the metal. The premium would cover "unusual" costs in getting into production.

This new policy not only makes the $200 million Inco project a near certainty but also:

• Will give major impetus to the rapid pace of development and search for new nickel supplies by Canada's high-flying mining industry. Already many Canadian mining organizations have been seeking out nickel, particularly in company with copper.

• Gives a sharp impetus to shares of mining companies interested in nickel. Leading nickel issues like Inco and Falconbridge surged sharply higher on stock exchanges and a rush of buying spread into a wide list of smaller producers and prospects.

• Is expected to give a major push to development of nickel, laterite deposits in the East and West Indies where some Canadian mining companies have interests. Canadian nickel ores are sulphides.

The U. S. move is seen as an admission that the only way it can assure more nickel for defense needs is from Canada. For some time there has been pressure in the U. S. to develop domestic sources, but all efforts have failed to alleviate shortages.

It is the first time the U. S. has publicly stated it will give such premium price assistance to new properties although it has, in the past, aided Canadian nickel output by such private deals. **Falconbridge Nickel** was able to undertake development of its Hardy and Fecunis Lake ore bodies as a result of a special price deal made in 1952. Although terms were officially disclosed, it is understood that Falconbridge gets 40c a lb above the 60c a lb. price prevailing at that time. Sherritt Gordon was also assisted by the U. S., bringing Lynn Lake to production.

This is the new policy of the U. S. in developing nickel as reported by The Financial Post's Washington correspondent.

Head of the U. S. Office of Defense Mobilization, Arthur S. Flemming, announced that:

—In addition to rapid tax amortization and market price purchase contracts previously authorized, the "Government is prepared to discuss with domestic and foreign producers further financial assistance to cover unusual development costs in bringing new production into being as quickly as possible where it is demonstrated assistance is justified.

—"Such assistance, if given, will be reflected in the price paid for metal put to the Government."

—Metal purchased will, as a rule, be placed in the strategic stockpile. Nickel that the U. S. agrees to purchase will be subject to call by the U. S. The nickel can be sold to the U. S. Government each quarter at the option of the company.

International Nickel officials who have been in Manitoba discussing power supplies for the Mystery Lake-Moake Lake project are expected to shortly make a formal offer to the U. S. If the offer is accepted and a premium price above the market level of nickel is established, Inco will go ahead with opening up these giant low-grade deposits.

The U. S., although attempting to dodge making "foreign" deals for nickel, has been forced into the position of giving a premium price because earlier incentive efforts failed to meet production targets.

Production target for nickel by the U. S. is 440 million pounds annually. Total available supply now from foreign and U. S. sources is about 300 million pounds with almost 80% coming from Canada. (Last year, Canada shipped about 232 million lb. to the U. S.)

In order to reach the 440 million-lb. target, the ODM will give preference to plants promising early delivery. In addition, and in line with defense "dispersal" policies, plants offering greater security in an emergency will be given preference of premium prices.

Presumably this could mean that Canadian companies with properties outside the nickel heart

(Continued on page 8, col. 5)

Canadian Company Earnings Ahead

First half results of Canadian companies show earnings well ahead of comparable 1955 period.

The integrated oil companies and pipelines have been leading the way, it's indicated from reports so far issued. Higher metal prices have led to a strong showing by the mines too.

A roundup of 39 firms who have reported on their first half operations shows that their combined earnings are 18% better than a year ago. For a report on these results, see pages 5 and 26.

Pipeline Finances Hinge On Canadian Sales Alone

OTTAWA (Staff) — If Trans-Canada Pipe Lines Ltd. is to have any chance of repaying government loans and redeeming its present stock from the government trustees before May 1, 1957, it will have to arrange private financing on the strength of Canadian sales alone. If financing has to depend on immediate export sales to the U. S., it will be as impossible next May as it was last May.

Of course, the demand for natural gas in the U. S. is growing so much that once the Canadian line is built, there is no doubt that a large market exists there for our gas. Even if financing has to be done on the basis of Canadian markets alone, it would be with the knowledge that sales to the U. S. are likely to be lower, no matter what happens to Tennessee's present application.

This is the view now generally accepted in government circles, and it is fully confirmed by the snail's progress of Tennessee Gas Transmission Co.'s attempts to get Federal Power Commission approval for its plan to import Canadian gas into the U. S. Mid-West.

Latest assessment of the F.P.C. proceedings on Tennessee's application is that the case isn't yet even halfway through. Since Tennessee launched its application in the fall of last year, the present rate of progress will not bring a decision before 1958 — if then. The most recent move by the Commission — an almost unprecedented one — will have the effect of adding an extra three or four months' delay.

Trans-Canada Pipe Lines is already working on plans to finance its part of the all-Canadian plan without export. (That would mean all the lines except the bridge across Northern Ontario, which the Federal and Ontario Governments have agreed to build jointly.) T. H. Atkinson,

(Continued on page 8, col. 6)

THE SIGNS AND PORTENTS

TIT FOR TAT? For years food chains have been offering hardware items as premiums. Now manufacturer of new coffee-maker available through hardware stores is offering purchasers free instant coffee. Other hardware manufacturers also are thinking of free food give-aways to help their sales.

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CANADA WON'T benefit from France's decision to buy no more Australian wheat until Aussie import restrictions against French goods are relaxed. Likely beneficiary: the U. S. The 1954 Agricultural Assistance Act permits sale of American farm surpluses for the currencies of friendly nations, i.e., France.

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BRITISH INDUSTRIAL group is prepared to build complete atomic power stations, of gas-cooled, graphite-moderated type, anywhere in the world. Group, now completing world's first large-scale atomic power station at Calder Hall, Cumberland, England, would do everything from site preparation to feeding electricity into public supply.

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A QUOTE WORTH noting: "In the next decade, electron chemistry is going to come of age, making possible a host of new materials and products that can be produced in no other way." —Dr. C. G. Suits, vice-president and director of research, General Electric Co. Seen are new types of rubber, plastics, gasoline, paint, produced by bombardment of materials with atomic particles.

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LONGER OPERATIONS on the heart possible through use of new oxygenator or "artificial heart-lung" apparatus. Consisting of series of plastic bags used with special electric pump, it adds oxygen to the blood, removes carbon dioxide, permits heart to be bypassed entirely so that surgeons can work inside dry chambers.

• • •

RUSSIAN TV station inside Arctic Circle is being built, on Varnichnaya Hill near Murmansk. Ottawa Embassy's news bulletin doesn't say whether or when northern Canadians can tune in.

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LOOK FOR a cooler, springier auto seat soon. All auto makers are testing new "three-dimensional" fabric. "Depth" is put in by weaving in special yarns which are shrunk 55%, pulling cloth into hollow "bouncy" ridges; valleys allow air-circulation between motorist and seat, providing cool ride.

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NEW IDEA in corporate democracy? Chesapeake & Ohio Railway pulled a record crowd at its annual meeting by turning it into an exhibition of new C&O methods and rolling stock. Called it a "Stockholderama," staged it in a railway yard, decorated scene with flags, potted azaleas and dogwood.

• • •

OLD "TIN GOOSE" as Ford's 6,500-lb. "Trimotor" was called in its palmy days, will make runaway comeback after being out of production for 23 years. Reasons: (a) quick lift (200-foot takeoff empty), (b) heavy payload (4,500 lb.—21 passengers) for short hops and (c) speed (145 miles per hour) right for northern surveys, crop-dusting, etc.

• • •

WANT COMPLETE secrecy — even from the law—about your financial affairs? Then go to Lebanon, where new law forbids bankers to reveal details of client's business even to judges, allows accounts to be identified only by number with names known only to head of bank.

• • •

YOU MAY BE ABLE to sell more in Australia. Definite word is expected sometime after next week when Aussie Trade Minister McEwen passes through Ottawa. He's been up-dating his country's 1932 trade agreement with the U. K., probably got concessions indirectly helping Canada.

Stock Market Highlights

Industrials

Canadian industrial stocks, after briefly marking time, surged sharply higher in some of the best advances of the year. Indicators like the Toronto Stock Exchange index are currently at 1956 highs. For details on some of the stocks that moved, see page 4.

Mines and Oils

Biggest features of the market are nickel stocks with **International Nickel** leading in hitting as high as $108 on Wall Street and about $105 on Canadian markets. Nickels react to premium-price offer of U. S. government.

Chibougamau-Jaculet jumps 50c to $4 on news that drilling has indicated what may be a third copper ore body on its Chibougamau area property.

Western oil issues also in strong demand with European buying sparking activity after Egypt seizes Suez Canal. **Great Plains** jumps $1 to $50, **Bailey Selburn A** adds 75c at $17.

Other oil favorites of Europeans include **Triad Oil** which rises ⅝ at $11, **Canadian Devonian** up 25c at $8.50.

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Du Pont Net Drops 24%

Du Pont of Canada Securities Ltd., Montreal, and its wholly owned subsidiary, **Du Pont Co. of Canada,** estimate consolidated net profit of $2,453,000 for the six months ended June 30, 1956, a 23.7% drop from net profit of $3,217,000 for the first half of 1955.

Earnings per share declined to 33c (44c in earlier period). Dividends amounted to 20c per share in both periods.

Lower half year earnings reflect marked reduction in textile fibre selling prices since mid-1955 and adverse effect of initial operating periods of the finishes plant at Ajax, Ont., and the Freon fluorinated hydrocarbons plant at Maitland, Ont., reports President Herbert H. Lank.

Du Pont cut prices in second half of 1955 to broaden markets for products. It made further sharp cuts early this year but believes ultimate market expansion will justify these steps.

Sales were 3% higher despite price cuts and volume shipped was up 12%.

Six Mos. Ended June 30:	1956	1955
	— ($ thousands) —	
Net sales	32,497	31,485
Add: Other inc.	313	52
Less: Costs & exps.	24,928	23,052
Depr.	2,384	2,215
Taxes, current	1,995	3,015
Do., future	50	38
Net profit	2,453	3,217

SILVERWOOD DAIRIES LTD. during June issued an additional 200 Class A shares upon conversion of 5¼% convertible sinking fund debentures and 25 A shares under option to employees. Now 601,972 A shares outstanding.

Trend of Business

Hot and heavy demand for iron ore pushes mine shipments up 55% in first half of this year. Of the 6,354,000 tons shipped, over 5,487,000 tons were destined for export markets. This means that while export shipments rose 40% over year-earlier levels, shipments to Canadian consumers climbed an impressive 111% to reach 866,500 tons. At the end of June, stocks at the mines came to 2 million tons, a little higher than a year ago.

Labor income piles up new record in May. Month's bill for wages and salaries came to $1,125 million, 3.6% higher than a month earlier and 11.2% ahead of a year before. This means first five-month total comes to $5,551 million, running 9.6% ahead of last year's.

Reflecting over-all business health, all sectors report higher labor income in the first five months compared to a year earlier: construction $376 million (+20.5%); manufacturing $1,829 million (+10.9%); agriculture, forestry, mining $370 million (+9.5%); utilities, transportation, communication, storage and trade $1,438 million (+9.0%); finance and services $1,351 million (+8.8%); supplementary labor income $196 million (+10.1%).

Trends in coal consumption in first half of '56. Industry's big power and energy needs this year have reversed a several-year-long trend toward smaller coal production, fewer coal imports. Six-month production is up 6.1% over last year, totaling 7.5 million tons. Imports ahead 11.9%, totaling 9.2 million tons. Canadian production higher in all of the coal producing areas with biggest gains being made in the Maritimes mines.

Business failures climb during first quarter. Some 709 companies went under in the first three months of 1956 as against 661 the year before. Total liabilities came to $19 million, up 28.3%. Average failure was $26,900, over 19% higher.

Biggest increase in failures in construction industry. Some 119 construction firms closed their doors, almost three times the number in the first quarter of '55. Service insolvencies rose from 114 to 139. Manufacturing bankruptcies fell to 60 from 117. Trade sector, where most failures usually occur, reports 201, down from 253. Of the 709 failures, 522 took place in Quebec (475 in '55); 145 in Ontario (122); Atlantic Provinces 8 (9); Prairies 20 (35); B. C. 14 (20).

Retail credit sales up — but remain unchanged as a percentage of all sales during first quarter, compared to year earlier. Cash sales came to $1,810 million (+9.5%); installment sales $325 million (+9.8%); charge sales $654 million (+7.7%). Of all sales, cash accounted for 64.9% (64.6% a year ago); charge 23.5% (23.8%); installment 11.6%, unchanged. At the end of March installment accounts receivable totaled $362 million, 17.5% higher; charge receivables $480 million, up 10%.

Upturn in farm implement sales last year after a two-year-long downslide. Final figures reveal the industry's sales in 1955 reached $155.1 million, up 5.7% from a year earlier, although still well under the peak $250 million of 1952. Sales were greater in all provinces except Saskatchewan where the drop was 11.4%. Gains ranged from 0.7% in Manitoba to 30% in the Maritimes.

How the telephone companies are doing. Net income of Canada's 15 telephone companies reached $45.9 million last year for a 7.6% gain over the year before. Total revenues were up 11%; expenses, up 12%. This left net operating revenues of $103 million, 6.7% larger than a year earlier. Number of telephones rose 8% during the year bringing the total to over 3.8 million. Canadians are talking more: conversations numbered 6.6 billion, 11% more than in '54.

Distilling industry: Stimulating story of gains. New figures show that sales topped $129.8 million last year, 2.9% larger than the year before and continuing a five year series of increases. Here is a spirit by spirit breakdown of sales compared to a year earlier: gins $6.5 million (+9.7%); liqueurs, cordials and cocktails $1 million (+18.3%); brandies $343,000 (+7.2%); whiskies $79.9 million (—1.2%); rums $3 million (—0.5%). Sales within the industry came to $28.3 million (+16.6%).

Major Weekly Indicators

	Latest Week	Week Ago	Month Ago	Year Ago
Department sales, % ch. from year earlier	+16.4%	+8.2%	+13.0%	+12.0%
Carloading totals (cars)	75,626	81,284	91,703	87,181
Eastern Canada (cars)	63,321	54,908	59,477	58,989
Western Canada (cars)	32,305	26,381	32,226	28,192
Iron & Steel (mfd.) (cars)	1,601	1,329	1,570	1,378
Ores, concentrate (cars)	11,646	11,523	9,618	10,270
Base metals (cars)	596	526	680	543
Lumber, timber, plywood (cars)	5,414	4,374	4,891	5,465
Cement	1,376	1,153	1,279	1,301
Passenger car prod. (no.)	9,170	9,313	9,420	9,386
Truck production (no.)	2,160	2,512	2,443	2,158
Bus. failures 4-wk. moving av. (no.)	23.3	24.0	25.5	19.0
Chartered Bank				
Personal savings ($ millions)	5,887	5,892	5,869	5,603
Loans outstanding ($ millions)	5,315	5,307	5,326	4,275
N.H.A. mtge. holdings ($ millions)	401	397	386	154
Bank of Canada holdings of securities ($ millions)	2,386	2,387	2,384	2,305
Short-term govern. ($ millions)	1,043	1,046	1,062	1,247
Long-term govern. ($ millions)	1,298	1,291	1,273	1,017
Other Securities ($ millions)	32	36	36	42
Canadian dollar (U.S. cents aver.)	101.794	101.804	101.892	101.400
T.S.E. industrial index	501.75	493.52	472.27	429.83
Yield 114 stocks	4.48%	4.48%	4.55%	4.13%
Bank Clearings				
Montreal ($ millions)	741	736	742	498
Toronto ($ millions)	949	1,071	1,008	698

Facts by the Month

	LATEST MONTH AVAILABLE	One Month Previous	Two Months Previous	One Year Previous
WHAT WE PRODUCE—				
In all industries (Index)	283.2	278.5	277.2	267.4
In factories (Index)	288.7	288.1	282.3	274.2
Total nondurable goods (Index)	245.0	246.1	242.0	267.4
*Food & bev. (Index)	237.6	229.8	218.7	241.2
*Textiles (Index)	175.9	192.2	209.1	162.5
*Clothing (Index)	157.6	157.3	165.0	144.7
*Chemical products (Index)	313.1	313.4	302.4	306.6
Total durable goods (Index)	357.1	350.7	345.4	330.3
*Iron & steel products (Index)	332.7	325.4	331.3	287.1
*Primary iron & steel (Index)	418.8	396.7	437.5	354.7
From mines (Index)	253.9	262.6	249.7	290.2
*Metals (Index)	145.4	139.9	134.3	137.6
*Nonferrous smelting, refining (Index)	261.3	230.7	236.9	265.4
*Gold (Index)	106.2	106.8	111.4	107.1
—From farms				
Hogs graded (000)	458	494	590	440
Cattle delivered (000)	138	136	160	127
Flour (Index)	142.1	139.3	135.7	144.0
—From sea				
E. Coast catch ($000)	7,771	3,218	1,796	7,744
W. Coast catch ($000)	1,670	507	1,152	1,475
—From forests				
Newsprint (000 tons)	536	551	518	508
Pulp (000 tons)	919	843	816	849
—In powerhouses				
Electricity (Index) (seasonally adjusted)	317.4	307.2	305.4	305.7
WHAT WE SELL—				
Retail sales ($ millions)	1,297	1,105	1,045	1,124
Dept. store sales ($ millions)	102	95	94	93
Wholesale sales ($ millions)	718	636	654	609
Mfrs. outstg. orders ($ millions)	2,811	2,845	3,766	2,579
Pass. car sales (units)	53,790	52,397	36,551	52,279
WHAT'S ON HAND—				
Mfrs. inventories ($ millions)	4,480	4,422	4,407	4,082
Dept. store stock sales ratio	2.8	2.9	2.6	2.8
SPENDING, SAVING POWER—				
*Labor income ($ millions)	1,108	1,125	1,098	1,049
Dividend payments (Index) (annual rate)	301.8	301.8	297.0	266.7
JOBS—				
*Persons with jobs (000)	5,647	5,499	5,326	5,456
*Jobless seeking work (000)	117	165	257	157
*Do. (% of labor force)	2.0%	2.9%	4.4%	2.8%
CONSTRUCTION—				
Contract awards ($ millions)	331	324	291	290
FOREIGN TRADE—				
Exports ($ millions)	435	388	333	373
Imports ($ millions)	555	531	498	434
MONEY—				
Money supply ($ millions)	8,687	....	8,580	8,593
Cheques cashed ($ millions)	18,290	18,384	15,315	14,068
*Life insurance sales ($ millions)	290	280	275	246
Notice deposits ($ millions)	6,329	6,299	6,257	6,122
Current public loans ($ millions)	5,183	5,069	4,962	4,086
PRICES—				
Consumer price (Index)	117.8	116.6	116.6	115.9

Index based: production wholesale sales 1935-39=100; consumer price index, 1949=100; manufacturers' inventories outstanding orders Dec., 1953=100.

STRATEGIC MATERIALS—Production and Supply—

	Latest Month	Month yr. ago	Yr. to date	% chge. yr. to date
Steel ingots and castings (000 tons)	434	361	1,709	+33.5%
Primary copper (000 tons)	27.3	26.2	116.4	+12.4%
Nickel (000 tons)	14.4	15.0	59.9	+2.7%
Cement (000 bbls.)	2,682	2,206	11,029	+21.1%
Lumber (millions fbm.)	474	472	2,381	—2.7%
Lumber exports (millions fbm.)	329	300	1,276	—30.4%

*New item this week.

Date of issue for your file, The Financial Post, Aug. 4, 1956.

'56 Shapes As Banner Life Year

Early reports from Canada's life insurance companies indicate that 1956 business is going to easily outstrip 1955, a banner year itself for the insurance business.

Purchases of new life insurance in the first half of this year are estimated to be $1.9 billion. This is 16% more than new sales in the same months in 1955 — and as much as was bought in a 12-month period six years ago.

Ordinary life sales led all other types of insurance in both percentage gains and dollar volume. These amounted to $1,593 million in the first six months, up 18% over the same months last year.

Industrial sales dropped 12% to a total of $70.7 million this year.

Group contracts amounted to $242.1 million for an 11% increase.

Here are first six months' ordinary life sales by provinces:

	1956	1955
	— $000 —	
Alberta	116,998	99,000
British Columbia	146,039	122,900
Manitoba	66,993	56,900
New Brunswick	29,637	25,500
Newfoundland	9,563	8,100
Nova Scotia	45,196	37,900
Ontario	671,021	567,300
Prince Edward Island	3,781	3,200
Quebec	463,477	396,400
Saskatchewan	41,034	34,500
TOTAL	1,593,739	1,351,700

Latest figures for the month of June alone show that sales totaled $342.7 million, up 9% over those made in June last year. Ordinary life sales came to $289.9 million (+17%); industrial sales, $10.4 million (—17%); group contracts, $44.4 million (—18%).

This is the record of ordinary life sales during June, by provinces, as compiled by the Canadian Life Insurance Officers Association:

	1956	1955
	— $000 —	
Alberta	21,341	17,977
British Columbia	27,283	20,576
Manitoba	12,048	9,391
New Brunswick	5,017	4,386
Newfoundland	1,693	1,670
Nova Scotia	8,632	6,609
Ontario	122,972	98,357
Prince Edward Island	677	667
Quebec	80,486	60,126
Saskatchewan	7,747	7,083

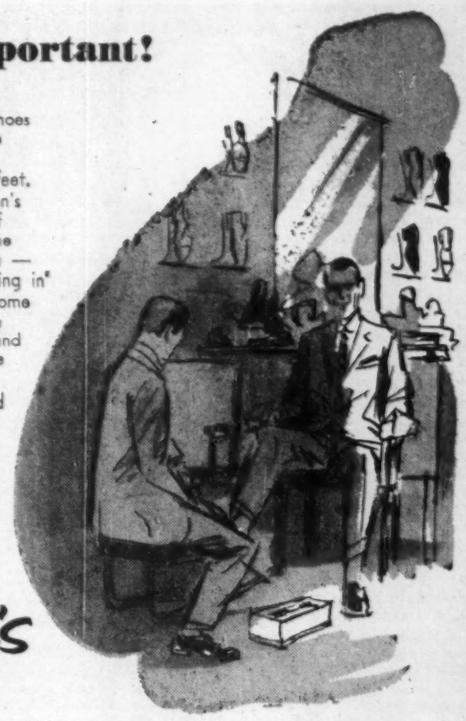
Here are sales figures by months:

	1956	1955
	— $000 —	
January	230,566	194,600
February	247,159	209,700
March	273,300	239,300
April	275,060	226,800
May	279,558	234,300
June	287,896	246,500
July	.....	223,900
August	.....	206,900
September	.....	212,300
October	.....	234,300
November	.....	273,000
December	.....	270,000

TAYLOR, PEARSON & CARSON (CANADA) LTD. converted 150 preferred shares into same number of common. Now 79,850 preferred shares and 307,772 common shares outstanding.

fitting IS important!

'Breaking in' a new pair of shoes can be pretty uncomfortable for a while; it could lead to permanent damage to your feet. The assistants in Simpson's Men's Shoe Department — many of whom hold Diplomas from the Footwear Institute of Canada — are fully aware of this 'breaking in' problem. That's why they welcome the opportunity to advise you on your correct shoe fitting, and to bring their expert knowledge to bear on your especial requirement. You can't afford to take chances with your foot health . . . but you can afford to visit Simpson's Men's Shoe Department and be correctly fitted with the shoe of your choice.



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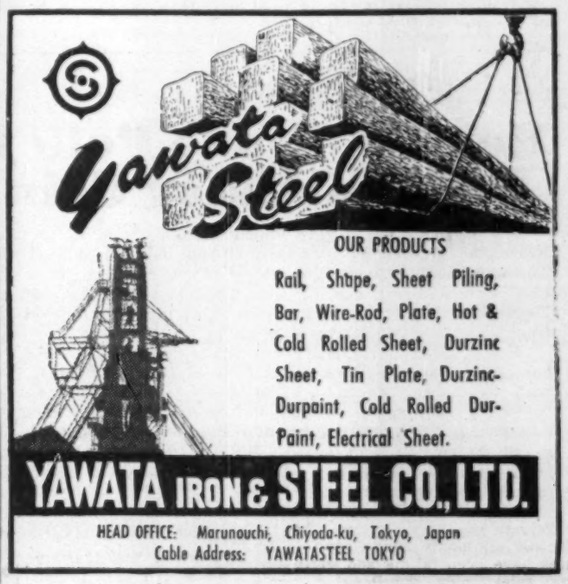
Stelco Output Sets Record

First six-month demand for steel continued to tax the capacities of **Steel Co. of Canada** plants, H. G. Hilton, president, reports. New records were established in production and shipments during the period, and production and sales should continue at satisfactory levels the rest of the year, he states.

While there have been some adjustments in selling prices and economies from higher operating efficiency, said the president, these have not been enough to offset the full effects of increased costs. Further increases in labor and other costs must result in further price adjustments, he warned.

Company's offer of 616,975 new shares during May and June was 90% subscribed by shareholders by July 3, 1956. Remainder were sold in accordance with the underwriting agreement. Aggregate consideration for the shares was $28,511,418 which brought number of issued common shares to 4,318,825 and paid-up capital to $46,907,168.



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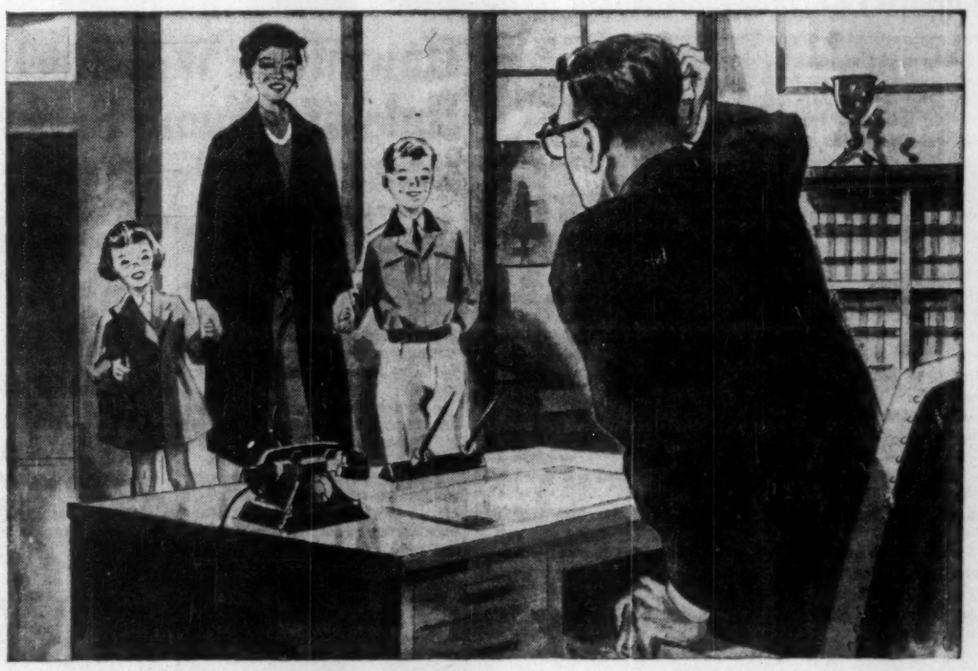

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How Much Will Steel Rise? Rule of Thumb Says $8

(Continued from page 1)

● In the U. S., the same cost calculations were taking place, with all ingredients much similar. The U. S. settlement in basic steel, ending a four-week strike, is worth something more than 50c hr. over three years, between 20c and 25c hr. in the first year.

The Union argument is that steel company profits—at record levels—will allow extra costs to be absorbed without a price rise.

Financial Post survey of manufacturers, warehousemen and steel-users revealed these general opinions:

1. Higher prices for all steel items are certain. Another increase next year is probable, based on the wage pattern now determined.

2. Canadian mills are likely to keep on producing at top capacity for the rest of this year at least. The same shortages as existed before the U. S. strike will continue this year but there may be some readjustment in the production pattern for flat products which might catch up with market needs.

3. Delivery dates have been set back on U. S. steel to Canada by about eight weeks. This could result in a temporary slowdown on certain major construction projects toward the end of this year and early next year.

One basic steel manufacturer told The Financial Post:

"With the possible exception of copper, I don't think there is a single item among the raw materials or components we use that has not gone up in price by at least 10% in the last six months. There will be an increase in the price of steel without any possible doubt."

Among some warehousemen there's a feeling that increases in steel sheet in Canada may be less than those for hot rolled items, bars and pipes, etc.

Aside from their influence on steel prices, both steel wage settlements are important:

—They give Stelco and basic steel in the U. S. much-prized long-term contracts. Thus, during the coming period of expansion, costs can be figured much more closely than under a one-year labor contract.

—The Stelco sign-up probably sets a pattern for **Algoma** — Canada's second-largest steelmaker.

—In the long run it also will be a major influence on wages in the nation's other steel companies.

—Although labor contracts in many other industries have been signed, the new steel deals will greatly influence future negotiations in all industry. Their size will encourage all unions to demand more wages and benefits.

The settlement covering Stelco's 7,000 Hamilton workers was secured by a conciliation board chaired by Judge Walter Little. It runs until March, 1958.

Base rates will go up 10c hr. the first year and 8c the second. The increment between job classes goes from 4½c to 5c the first year and 5½c the second. The U. S. differential is 6c.

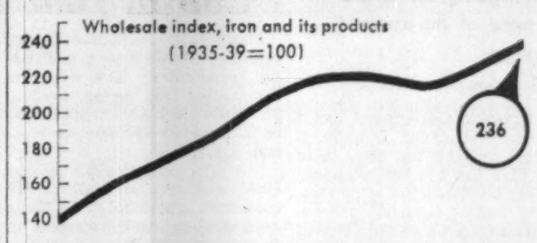
Shift premiums are higher; a special premium now will be paid for Sunday work. Better pensions and a settlement of the Co-operative Wage Study plan (a detailed job evaluation program) are included. The latter will mean paying out to workers some $4.5 million in back pay resulting from CWS.

An interesting point:

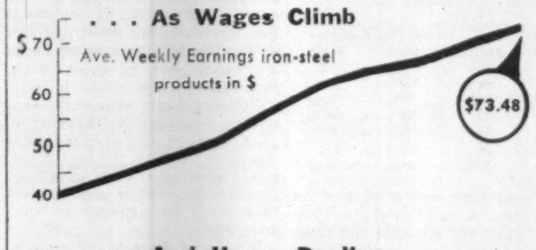
Though Steelworkers got a supplementary unemployment benefit plan in the U. S., it didn't in Canada. As suspected earlier, the Canadian union traded SUB for other benefits. Two years from now, though, it will want SUB.

The Steel Pattern

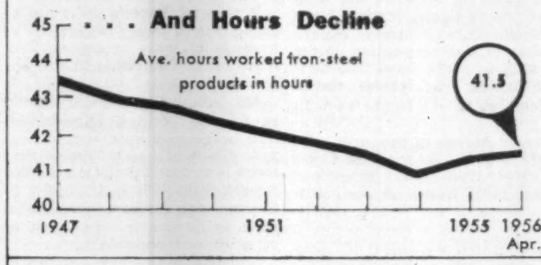
Prices Move Upward



. . . As Wages Climb



. . . And Hours Decline



. . . And Profits Improve

Return on Capital Invested:

	1955 %	1947 %	% change
Algoma Steel	14.14	8.78	+61
Dofasco	13.32	9.83	+36
Dosco	4.87	3.56	+37
Stelco	16.19	9.67	+67

Canada's Long-Term Health Drawing Card For $12 Mill.

(Continued from page 1)

manufacturing power shovels and other equipment, and eventually build a foundry.

Richier Machine Co., Paris, France, one of Europe's largest manufacturers of construction equipment, is now preparing plans for a $1 million plant on a 77-acre site at St. Thomas, Ont., to produce heavy construction equipment, and envisages substantial growth.

Bucyrus-Erie of Canada, offshoot of the major U. S. firm of that name, is also building a 90,000 sq. ft. plant on a 30-acre site at Guelph, Ont., to produce heavy construction equipment, and has plans for major growth.

Pressure Pipe of Canada, a member of the **Canada Iron** group of companies, is now building a $2 million plant in Etobicoke Twp., Ont., to produce a wide range of pressure pipe, mainly for water distribution and transmission.

Dominion Steel & Coal Corp. has started major construction programs involving $4.2 million in Montreal and Toronto areas to increase fabricating capacity.

Truscon Steel Co. of Canada, an associate company of Dosco, has a $1 million steel fabrication plant building in Ville La Salle, Que.

Plans Are Definite

Ardelt Industries was established in Canada just over a year ago on a 30-acre site which allowed space for major expansion.

This week, Vice-President and Managing Director E. V. Bolckmar told The Post: "Presently, we are specializing in overhead traveling cranes and do steel fabrication and machine ship work. Our plans for the future are definite. It is just a question of timing."

The entry of two of the world's major manufacturers of heavy construction equipment has resulted directly from the major growth in construction in Canada. While Canadian producers strain capacity to meet orders for new equipment, heavy construction equipment imports from half-a-dozen countries in the world rose by 43% in 1955 over 1954.

And while the Seaway and defense projects have influence on the immediate growth, the newcomers are looking well beyond those jobs to a sustained rise in general construction volume over the next two decades.

A group of Bucyrus-Erie executives from the U. S. were in Toronto this week interviewing prospective executive applicants for the Guelph plant. One of the visitors, J. Jamieson, stated: "Our company has been in the Canadian market for 30 or 40 years. And now the market has become sufficiently attractive for us to set up manufacturing facilities and go to work here."

The Richier group has four plants in France and subsidiary operations in three other countries. While plans for its first Canadian plant are still being drawn, the extent of its operations here have already been expanded over first intentions.

Industrial Commissioner W. H. A. Sparling of St. Thomas told The Post: "They were going to start with the manufacture of power shovels but now they are going to make more items than originally intended. These could range from cranes and crawler tractors through earth-moving equipment and crushers, to diesel engines and tower trains."

Pressure Pipe of Canada looks for its markets to the major development of water services to meet the current and future needs of increasing population. The 100,000 sq. ft. plant claimed to be the biggest in Canada of its kind, will make Hyprescon pressure pipe in sizes from 12 in. to 54 in. It expects to be in production next spring, and attain an average production rate of 1,000 ft. of pipe per day.

Dosco's plans cover three subsidiaries. Canadian Bridge Co. is building a new plant at Ville La Salle, Que. to fabricate steel towers. Canadian Steel Corp. is building a plant in Etobicoke, Ont. to combine and expand its own operations and those of Graham Nail & Iron Products Ltd.

Truscon Steel plans to expand its eastern operations and its new plant will fabricate joists, light trusses and a great variety of other steel and aluminum products.

Union Acceptance Net Rises Slightly

Union Acceptance Corp., Toronto, consolidated net profit for the half year ended June 30, 1956 was $123,976, 1.1% higher than net profit of $123,634 for comparable period last year.

Business transacted was 28.6% higher than in corresponding period of 1955. Increase was partly due to opening of five new branches since beginning of year (one additional in Vancouver, two in Edmonton and two additional in Toronto), reports President F. E. Burroughes.

Unearned income reserve amounted to $1,210,000 ($974,000 a year earlier). Earnings on increasing business volume are temporarily placed in this account and then transferred into profits pro rata as related notes receivable mature.

Union says that profits should materially increase with absorption of branch opening expenses and the benefits from larger volume. Second half of 1956 should be quite satisfactory.

BRITISH AMERICAN OIL CO. during May issued an additional five common shares upon conversion of debentures due August, 1961, 12 shares upon conversion of debentures due June 1962. Now 9,492,050 common shares outstanding.

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Who since becoming associated in Toronto with the Canada Life Assurance Company in 1936 has been specializing in Deferred Executive Compensation Plans, Business Insurance and Employer-Employee Benefit and Pension Plans. Mr. Eisen is the author of booklet on "Pension Planning" first published in 1950.

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Now Is The Crucial Time In Fight Against Inflation

(Continued from page 1)

pected spurt of business borrowing in the autumn, then their normal recourse would be to buy government bonds and thus put more cash into the hands of the sellers—whether banks or public.

If they decide that Canadian business has already had all the extra credit that the physical resources of the country warrant, then they would be expected to keep the banks short of cash by refusing to buy government bonds.

In the last month, while bond prices have been falling and interest rates rising, the Bank of Canada has been buying bonds on a modest scale. But the increase of its holdings indicates that it was only moderating the market decline—not trying to buck it, and not deliberately putting more cash into circulation.

From July 4, when the bond market turned down, until July 18 the Bank of Canada increased its holdings by $19 million in under-two-year bonds and another $16 million in over-two-year bonds. In the next week $25 million of bonds was tucked away into Government Accounts. The Bank's holdings of shorts dropped by $22 million, and it increased its holding of longer-term bonds by only $7 million.

Support Falling Market

This suggests the technique of giving some support to a falling market while minimizing the expansion of cash which could normally result.

The squeeze on the chartered banks for adequate cash is illustrated by two figures:

● On July 18 they held a record low in government securities. On that date they had only $2,618 million in government bonds and Treasury Bills, which was just under 25% of their deposits. Now, these government securities have always been regarded as a sort of "tertiary cover" for the banks' liabilities; and it is generally much higher in proportion to these liabilities. This 25% was probably an all-time low.

It represented, apparently, the lowest limit to which the banks as a whole were prepared to go. In the following week the banks' holdings of government securities were increased very moderately, mainly by the purchase of more Treasury Bills. They bought only $7 million more in bonds, which can't have been very attractive on a falling market.

Banks Got Advances

● Through June and July the banks were supplementing their cash reserves by getting advances from the Bank of Canada. It has not been their habit to turn to the central bank as the "lender of last resort" too freely. They have to pay interest at the going "bank rate," currently 3%, which is not very attractive.

Through June there was only one week when the central bank's advances came to as much as $12 million. But on July 11, they were up to $18 million, and on July 18 to a very unusual $40 million. Most of this was repaid from other resources by July 25; but the chartered banks were still "into" the Bank of Canada for $12 million in cash.

But the key index to July's change of pace in money matters was the reduction of the total money supply (notes circulating outside the banks, plus bank deposits less float).

From June 1955 to June 15, 1956, this money supply increased by $546 million — from $10,849 million to $11,395 million (FP, June 30).

General Bakeries Has Higher Sales

General Bakeries Ltd., Toronto, sales for the three months since April 4 are ahead of the same period last year, President S. R. Saxby told the annual meeting.

The profits and volume of the St. John's, Nfld., and Calgary bakeries are justifying company's investment. General acquired them early in 1955.

Only recently was company able to raise bread prices to compensate for rising costs of last three years, during which industry wage index rose 14.2 points.

General has created eastern and western divisions. H. A. Armstrong, vice-president, is in charge of western and J. C. Conrad, vice-president, in charge of eastern division.

Consolidated net profit for the year ended April 4, 1956 was $132,979, 19.8% lower than net profit of $165,749 in previous year. Earnings per share were equal to 53c (66c in previous year) and dividends amounted to 20c (20c) per share.

INTERPROVINCIAL PIPE LINE CO. issued an additional 800 shares under employees' stock option plan. Now 5,045,632 shares outstanding.

Look For It Here

August 4, 1956

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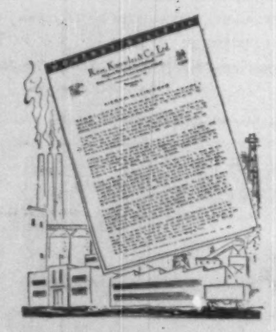

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Trust Firms Divided On Interest Rise

Savings deposits at at least four trust companies started earning more money this week.

The majority of trust companies, however, made no move to match the chartered banks' increase of ¼%—from 2% to 2¼%—on interest paid on deposits. In general, they were sticking to a rate of 2½%, even though it has been customary in recent years for trust companies to pay ½% more than banks on savings.

These trust companies have boosted their rates, or announced their intention of doing so:

—**Ontario Loan & Debenture Co.**, London, increased its interest payment on savings deposits to 2¾% from 2½% effective July 1.

—**Premier Trust Co.**, Toronto, announced that its rate will be raised from 2½% to 2¾% Oct. 1.

—**Canada Trust Co.**, London, and **Waterloo Trust & Savings Co.**, Kitchener, Ont., increased their rates from 2% to 2½% Aug. 1.

An officer of one trust company described the increase as an attempt to attract more cash, with which to meet growing requests for mortgage loans.

Several large trust companies were considering a change in interest rates this week, but had not reached a decision. The increases, if they come, would probably coincide with the beginning of a new quarter in the trust companies' "interest year."

For **Crown Trust** and **Toronto General Trusts**, a new quarter begins Sept. 1. For **Guaranty Trust** and **Sterling Trust**, it begins Oct. 1, and for **Canada Permanent, Chartered Trust** and **National Trust**, Nov. 1.

A number of major trust companies do not operate savings departments.

ANNOUNCEMENT

GEOFFREY H. WOOD

Geoffrey H. Wood—President and General Manager of G. H. Wood and Company Limited, Toronto, has just returned on the R.M.S. "Queen Elizabeth" from Europe. Mr. Wood spent about two months in England, France and Italy and was, we understand surveying these countries with the possible view to expanding his Company's "Sanitation for the Nation" business overseas.

The Wood Company have factories in Toronto, Montreal, and Vancouver, with 32 sales branches and warehouses across Canada.

Last year the company reported record high sales and profits. We are advised this upward trend is being maintained this year.

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Why They're Moving

Facts and comment on what's going on in the market and rumors behind some of the moves.

By FRANK KAPLAN

Seizure of the Suez Canal by the Egyptian Government had a double-barreled effect on Canadian industrial stocks. Initially, it halted a moderate rise, mostly because of a fear that this move could be the spark to fighting in the Middle East. But the fast secondary reaction was a rush of buying in Canadian oil stocks. For some time, European money has been accumulating leading Canadian oils but this trend accelerated as world-wide investors felt that the value of Canadian oil reserves would increase if Middle East supplies were cut off. Here's what happened to some of our leading oils.

	Latest Price	July 20	—1956 Range— High	Low
	$	$	$	$
B-A Oil	49	46¾	49½	35
Canadian Oil	28⅝	28	28¾	19¾
Imperial Oil	58½	55	58½	36⅞
McColl-Frontenac	65½	61	65½	41¾
North Star	16	16	17¾	14
Supertest	22	22¾	26¼	19½

* * *

THE STREET IS TALKING ABOUT—Another repercussion of the Suez Canal problem is another jump in interest in oil pipelines. They stand to benefit from a trend to higher rates for oil ships and from any disruption of traffic at the canal which might further boost charges for moving oil by boat. **Trans Mountain**, which would benefit from any increase in tanker rates because of the competition on the west coast of North America, jumps $5¼ to $76¼ from $71. First half profits at $1.74 a share are up from 70c last year. **Interprovincial Pipe Line** at $44¾ is up from $44; **Pembina** at $45 compares with $44½ recently.

International Petroleum, a major South American producer, also attracts recent buying in rising from $35 to $38¼. As for **Suez Canal** shares, they are listed in Montreal but rarely trade. Last transactions were 192¾ francs on the Capital shares, 148½ francs on the Jouissance, 188 francs on the Founders.

* * *

Results are starting to flow in from the relative handful of Canadian industrial companies that send out semi-annual reports to their stockholders. Reflecting the booming conditions the oil industry enjoyed as a result of cold, dry winter weather, Imperial Oil reported $1.12 a share, up from 82c in the first half of 1955. British American Oil net off at $1.06 a share from $1.16 because of more shares outstanding. McColl-Frontenac to $2.02 from $1.51, International Petroleum from $1.11 to $1.27.

Other results include **Du Pont of Canada** which reports 33c a share profit, down from 44c with the stock at $26½, down from $27½. **Powell River** with profit equal to $1.37 a share (down from $1.39) slips from $54½ to $54. Another paper firm, **Fraser Companies** reports net up at $1.52 a share from $1.07 with the stock climbing to $40¾ from $38¼.

* * *

Canadian Canners brightens in light trading to $41 from $40. Stock being turned in steadily under current offer to buy control by **California Packing**. Some 200,000 of the 468,137 shares outstanding have been deposited so far with about two months to go before expiry. Despite general lack of interest in the summer, some 5,000 shares a day are being received.

Combined Enterprises, a holding company, attracting some investor attention recently with the stock rising from $10 in mid-July to a top of $12 last week before settling at $11⅞. Company estimates profit up 37% in the first half and has declared a dividend of 15c quarterly from 12½c.

General Dynamics three-for-two stock split and increase in net to $2.20 a share from $1.85 a share in the first half of 1955 sparks rise to $73 from $64 in mid-July. Similarly, the staid utilities are reporting better profits with **Shawinigan Water & Power** telling of earnings of $2.02 a common share, up sharply from $1.50. Shawinigan common adds $3 at $92. The favorite of "widows and orphans," **Bell Telephone** at $48⅜ is up from $47¼ with per share profits up slightly at $1.24 a share, as against $1.20.

* * *

More changes in top management of **Massey-Harris-Ferguson** following James S. Duncan's resignation as chairman creates only mild stir on market with shares at $8⅜, up from $8 recently. Firmness may reflect signs of improvement in farm income and reports of better sales of farm machinery. Competitor **Cockshutt Farm Equipment** at $7 is up from $6¼ recently. One of the depressing factors in action of Massey-Harris-Ferguson earlier this year, when stock held around its low of $7½, is reported to have been persistent selling pressure from the U. K.

Canadian steel stocks edge upward after end of steel strike in U. S. although Canadian firms have own problems with new **Steel of Canada** labor contract expected to set the pattern for higher wages and higher steel prices.

Stelco at $71½ compares with $69 recently. **Dominion Steel & Coal** at $24 is up from $23½; **Algoma Steel** at $122½ compares with $121 and **Dominion Foundries & Steel** at $34¾ is up from $33¾.

* * *

OTHER MARKETS—Overseas markets took a moderately severe battering from the Suez Canal troubles with bulk of selling in the big oils. One of the sidelights involved in the switching of interest from European oils to Canadian oils is proving a bother to some of the Canadian companies. Paris brokers are demanding share certificates representing only five shares. They may be buying 500 to 1,000 at a time, but they want these blocks broken up into five-share units to suit Paris Bourse trading requirements. If their interest continues high, printing houses in Canada stand to cash in by printing additional stock certificates.

Public Works Slowed Down To Avoid Premium Prices

OTTAWA (Staff) — No general cut in government construction plans has been ordered, but the volume of public works this year is expected to be considerably reduced all the same. The scheduled date of completion of some jobs has been considerably extended.

"We are letting nature take its course," said an authority. "The ultimate result will be some cutback in authorized expenditures, but no conscious effort is being made to reduce our work by any given amount. Officials in the Public Works Department are still under pressure to hurry all authorized projects up to the stage of calling for tenders."

When it comes to getting tenders, the Government is "feeling its way." It is trying to avoid paying premium prices for scarce materials, and it is refusing to accept bids which appear "unrealistically" high.

But some projects are being launched at prices well above what the Government expected or intended. An example is some of the Trans-Canada Highway work in Western Canada.

There has been some inflation of construction costs, government spokesmen admit; but they say they are determined not to let contractors or their suppliers take advantage of it by "getting away with" high bids on government work.

In a number of cases, public works projects have been deferred because the response to tenders did not satisfy the Government. These were cases where:

Either there were not enough bids;

Or where all bids seemed to the Government "unrealistic."

Sometimes — as with a public building at Brantford, Ont. — the call for tenders received no response. In other cases only one or two contractors bid, and no one seemed to want work enough to provide a really competitive price. Even where bids have been quite numerous, they have sometimes been turned down as being too high.

In all such cases the letting of a tender has been "deferred." This may mean that nothing will be done this year, or it may mean that the Government will try again in a few weeks or months when builders in a particular area may not be so busy.

In any area where adequate construction facilities are available — in the few so-called "soft spots" — all government work is going on as planned.

MACMILLAN & BLOEDEL LTD. during June converted 725 Class A shares into same number of Class B shares. Now 37,101 A shares and 5,248,437 B shares outstanding.

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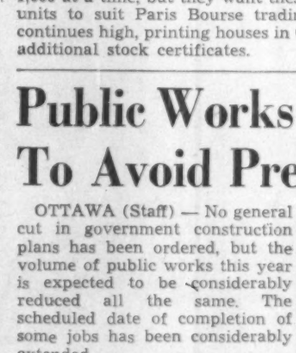

Abitibi Earns $1.85 in Half

First half consolidated net profit of **Abitibi Power & Paper Co.** increased by 23% over the comparable 1955 period, totaling $7,990,684 ($6,508,342 a year ago) equal to $1.85 ($1.49) per common share.

Net sales rose to $65.5 million ($59.7 million), and all of the company's production is being readily absorbed by markets in Canada, the U. S. and abroad, President D. W. Ambridge reports. "There seems no doubt that the situation in the paper industry on the North American continent will continue to be good for the remainder of the year," he said.

Newsprint and pulp demand is strong. Company is disposing of all its market pulp output at substantially higher prices. Hardboard demand is very good, particularly for special grades made exclusively by company at Sturgeon Falls.

Provincial Paper's mills are at capacity and prices have risen as a result of wage increases. New machine at Thorold is in full operation.

Mr. Ambridge listed some causes for concern: Substantial mill wage increases under two-year contract; woods labor agreement is under negotiation; higher freight rates (6% in U. S., 7% in Canada with further increase possible in October); rising cost of supplies and equipment.

Construction of new hardboard plant at Alpena, Mich., is well under way. Fort William plant is preparing for installation work on new newsprint machine. At Sturgeon Falls, new plant is being built to produce a new wood product for use in furniture and building industries.

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Massey-Harris-Ferguson	4½	Mar. 15/76	5.19
Husky Oil (ex)	5	Dec. 15/69	5.48
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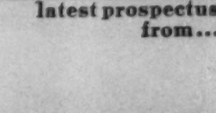

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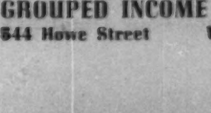

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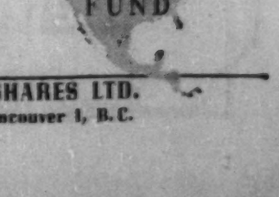

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BUSINESS UPSWING By PAUL S. DEACON

How Earnings Are Making Out

Full Year Record Seen In First Half Profit Gains

Early returns on results of Canadian companies for the first half of 1956 show that the good showing achieved in the first quarter has carried through the second quarter as well.

Because the full weight of the business upswing didn't occur until the second half of last year, the second half of 1956 isn't expected to show as striking an improvement as the first half. But with the outlook still good, the results suggest that earnings for the full year will still be ahead of record 1955.

In an accompanying table, the net profits after taxes of 39 companies are shown. Biggest percentage gain was achieved by the oil firms (27%) and the mining companies (23.6%). Only seven companies failed to improve on their 1955 first half showing.

Some fairly large concerns are still to be heard from, and their results could affect the picture considerably. For instance, first quarter earnings of **St. Lawrence Corp.** were up 91.8% ($930,000) above the 1955 period; **International Utilities,** up 28.3% ($400,000); **International Nickel,** up 28.7% ($6 million); **Aluminium,** up 15.5% ($1.4 million); **Atlas Steels,** up 155.6% ($620,000). **MacMillan & Bloedel,** expected to report this week, was down in the January-March quarter by 6.3% ($275,000).

The pulp and paper producers were generally strong, although **Powell River** and **Great Lakes** fell slightly behind last year. Both have expansion programs under way, and as Great Lakes pointed out, the interest and depreciation charges on facilities not yet in operation reduced the net profit figure abnormally. In Powell River's case, lower lumber sales and bad logging weather were a factor.

Current results for the pulp and paper group will suffer to some extent because of the increased premium on the Canadian dollar (1.7% now compared with 0.1% in March). Since most industry producers sell mainly in the export market, this change in the exchange rate chops more than $1.5 million off earnings before taxes for every $100 million of industry sales outside Canada (close to $1 billion a year).

Saguenay Power was the only utility, of the five reporting, which showed lower earnings. This was due to a water shortage which curtailed power production in the Saguenay system until May. Second quarter drop was less severe than in the first quarter.

Imperial Oil's big increase in earnings (nearly $10 million) was the big factor in the big gains for the oil group. **Trans Mountain's** increasing throughput put this pipeline concern's net well ahead of last year, when it was just getting into the black.

The drop in **Du Pont of Canada** earnings reflected price cuts made on its textile fibres late last year and this year. The reductions were made in an effort to broaden the market for its products, and company is confident that the drop now will be offset by greater sales later.

How Companies Are Doing

Net Profits For Six Months Ended June 30

	1956 $	1955 $	Change %
Forest Products:			
Abitibi P. & P.	7,990,684	6,508,342	+22.8
Consolidated Paper	7,852,962	6,798,352	+15.5
Donohue Bros.	498,169	431,543	+15.4
Fraser Companies	3,388,077	2,383,894	+42.1
Great Lakes Paper	1,607,118	1,634,426	—1.7
Powell River	5,735,707	5,852,378	—2.0
6 companies	27,072,717	23,608,935	+14.7
Public Utilities:			
Bell Telephone	16,984,464	15,276,382	+11.2
Quebec Power	577,909	543,364	+6.4
Saguenay Power	476,879	757,372	—37.0
Shawinigan Water & Power	5,430,668	4,128,371	+31.5
Southern Canada Power	1,414,683	1,244,775	+13.6
5 companies	24,884,603	21,950,264	+13.4
Mines:			
Aunor Gold Mines	178,900	199,000	—10.1
Campbell Red Lake	674,522	590,594	+14.2
Dome Mines	896,769	797,438	+12.5
Halinor Mines	198,600	198,000	+0.3
Hudson Bay Mining & Smelting	11,739,384	9,059,551	+29.6
Kerr-Addison	2,670,170	1,898,387	+40.7
Noranda Mines	8,934,000	6,681,000	+33.7
Normetal	1,639,800	1,392,700	+17.7
Pamour Porcupine	52,000	*2,000	....
Quemont Mining	2,485,400	2,441,000	+1.8
Sigma Mines (Quebec)	242,391	214,061	+13.2
Torbrit	48,200	118,800	—59.4
Waite Amulet	2,939,600	2,870,000	+2.4
13 companies	32,699,736	26,458,531	+23.6
Oils:			
British American	10,072,000	9,805,000	+2.7
Imperial Oil	33,735,194	24,353,477	+38.5
International Petroleum	18,500,000	16,100,000	+14.9
McColl-Frontenac	5,378,738	4,052,214	+32.7
Trans Mountain Oil Pipe Line	2,608,000	1,059,000	+146.3
5 companies	70,293,932	55,369,691	+27.0
Beverages:			
Canadian Breweries‡	3,317,290	3,081,473	+7.7
H. Corby Distillery	655,352	694,439	—5.6
Distillers Corp.-Seagrams‡	15,548,707	14,213,980	+9.4
H. Walker-Gooderham & Worts †	15,713,052	14,153,675	+11.0
4 companies	35,234,401	32,143,567	+9.6
Other:			
Auto Electric Service	141,922	94,780	+49.7
Canadian Industries Ltd.	3,955,000	3,822,000	+3.5
Combined Enterprises	507,000	369,000	+37.0
Du Pont of Canada	2,453,000	3,217,000	—23.7
Union Acceptance	123,976	123,834	+1.1
Waterous Equipment	203,359	106,521	+90.9
6 companies	7,384,257	7,733,135	—4.5
Total 39 companies	197,569,646	167,264,123	+18.1

‡6 months ended April 30.
†6 months ended May 31.
*Loss.

Fraser Cos. 6 Mos. Net Rises 42%

Fraser Companies Ltd., Edmundston, N.B., consolidated net profit for the half year ended June 30, 1956 was $3,388,077, 42.1% higher than net profit of $2,383,894 for comparable period of 1955.

Earnings per share were equal to $1.52 ($1.07 in earlier period). Figures are subject to audit and year-end adjustment.

In second quarter company's pulp, paper and paperboard mills operated at capacity except for one paper machine in **Fraser Paper Ltd.'s** Madawaska, Maine, mill. Machine was inoperative for nearly two weeks to permit installation of new electrical drive and ventillation system, says President Aubrey Crabtree.

Company negotiated new labor agreements with unions representing employees. It granted wage increases in line with those of the industry in the region. These became effective May 1 for sawmills and June 1 for pulp, paper and paperboard mills.

Six Mos. Ended June 30:	1956 $	1955 $
Oper. earnings	8,568,937	6,461,466
Less: Bond int.	56,875	61,250
Depl. & depr.	1,803,985	1,680,322
Inc. tax	3,320,000	2,336,000
Net profit	3,388,077	2,383,894

Dividend Changes

REEVES MACDONALD MINES — Common, 12½c payable Aug. 30 to holders of record Aug. 10, ex-dividend Aug. 8. First since 25c paid Oct. 10, 1952. Recent price: $2.20.

COMBINED ENTERPRISES — New common, 15c payable Sept. 1 to holders of record July 31, ex-dividend July 27. Total paid, in 1956 to date, 40c; in 1955 to same date, 25c; total paid in 1955, 37½c (all adjusted for May, 1955 stock split). Previously paid 12½c quarterly. Recent price: $11⅞.

D. A. STUART OIL — Common, 25c plus 25c payable Sept. 1 to holders of record Aug. 16, ex-dividend Aug. 14. Total paid, in 1956 to date, 70c plus 25c; in 1955 to same date, 60c plus 20c; total paid in 1955, 80c plus 20c. Recent price: $14.

GENERAL DYNAMICS — Common, 75c, U. S. funds, payable Nov. 10 to holders of record Oct. 10, ex-dividend Oct. 8. Total paid, in 1956 to date $2.40; in 1955 to same date, $2.15; total paid in 1955, $2.15 (adjusted for 1955 stock split). Current price: $73.

DIVERSIFIED INCOME SECURITIES—Series A, 35c payable July 31 to holders of record July 15. Total paid, in 1956 to date, 65c; in 1955 to Aug. 1, 60c.; total paid in 1955, 60c. Series B, 7c payable July 31 to holders of record July 15. Total paid, in 1956 to date, 13c; in 1955 to Aug. 1, 12c; total paid in 1955, 12c.

INTERPROVINCIAL PIPE LINE — Common, 60c payable Sept. 1, to holders of record Aug. 17, ex-dividend Aug. 13. Total paid, in 1956 to date, $1.10; in 1955 to same date, 70c; total paid in 1955, 70c. Recent price: $44¾.

PHOTO ENGRAVERS & ELECTRO — Common, $1 plus 12½c payable Sept. 1 to holders of record Aug. 15, ex-dividend Aug. 13. Total paid, in 1956 to date, $2 plus 12½c; in 1955 to same date, $2; total paid in 1955, $2. Previously, extra of 50c paid Mar. 2, 1953. Recent price: $43.

Powell River Net Off 2%

Powell River Co. earnings for the six months ended June 30 were down 2% from the comparable 1955 period, totaling $5.7 million or $1.37 a share ($1.39 a share a year ago).

Due to a misplaced decimal, the decline was reported as 20% in the July 28 issue of The Financial Post.

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Investment Suggestions for August

Security	Rate and Maturity	Price*	Approx. Yield%
Bonds			
Government of Canada	3 % 1 Sept. 1961/66	95.75	3.50
Government of Canada	2¾% 15 June 1967/68	93.25	3.45
Government of Canada Treasury Bills	Mature Oct. 26	Price to yield	2.65%
Province of Ontario	3 % 1 Nov. 1963/65	94.50	3.70
Province of Ontario	4¼% 15 May 1971/74	101.50	4.12
Ontario Hydro Electric Power Commission	4 % 15 July 1972/74	98.00	4.14
Municipality of Metropolitan Toronto	4½% 1 June 1976	100.00	4.50
Alberta Phoenix Tube & Pipe Ltd.	5½% 2 July 1968	100.00	5.50
Cockshutt Farm Equipment Ltd.	4¼% 1 Oct. 1965	93.00	5.22
Consumers' Gas Co. of Toronto	4¾% 1 June 1976	101.50	4.63
T. Eaton Acceptance Co. Ltd.	4½% 1 Apr. 1976	99.00	4.58
Lafarge Cement of North America Ltd.	5½% 15 July 1976	100.00	5.50
Lafarge Cement of North America Ltd.	5¾% 15 July 1976	100.00	5.75
Shirriff-Horsey Corp. Ltd.	5 % 15 Dec. 1975	99.50	5.04
Preferred Stocks			
Dominion Foundries & Steel Ltd.	4½% cum. $100 par	104½	4.30
St. Lawrence Corp. Ltd.	5 % cum. $100 par	102¼	4.88
Steinberg's Ltd.	5¼% cum. $100 par	104	5.04
Traders Finance Corp. Ltd.	5 % cum. conv. $ 40 par	47½	4.21
Common Stocks	**Indicated Dividend**		
Aluminium Ltd.	$2.40 U.S.	139	1.72
Calgary Power Ltd.	2.00	65	3.07
Canada & Dominion Sugar Co. Ltd.	1.20	24¾	4.84
Great Lakes Paper Co. Ltd.	1.60	51	3.13
Hudson Bay Mining & Smelting Co. Ltd.	5.00	97¾	5.11
Steel Co. of Canada Ltd.	1.70	70	2.42

*Accrued interest to be added where applicable.
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Auto Electric Net Doubles

Auto Electric Service Co., Toronto, unaudited net profit for the six months ended June 30, 1956 was $141,922, 49.7% higher than net profit of $94,780 for same period of 1955.

Earnings per share were equal to $1.12 (75c in earlier period). Working capital increased to $1,561,490 ($1,388,421).

Company has awarded a contract for addition of a second story to Toronto building. Construction is expected to start in October.

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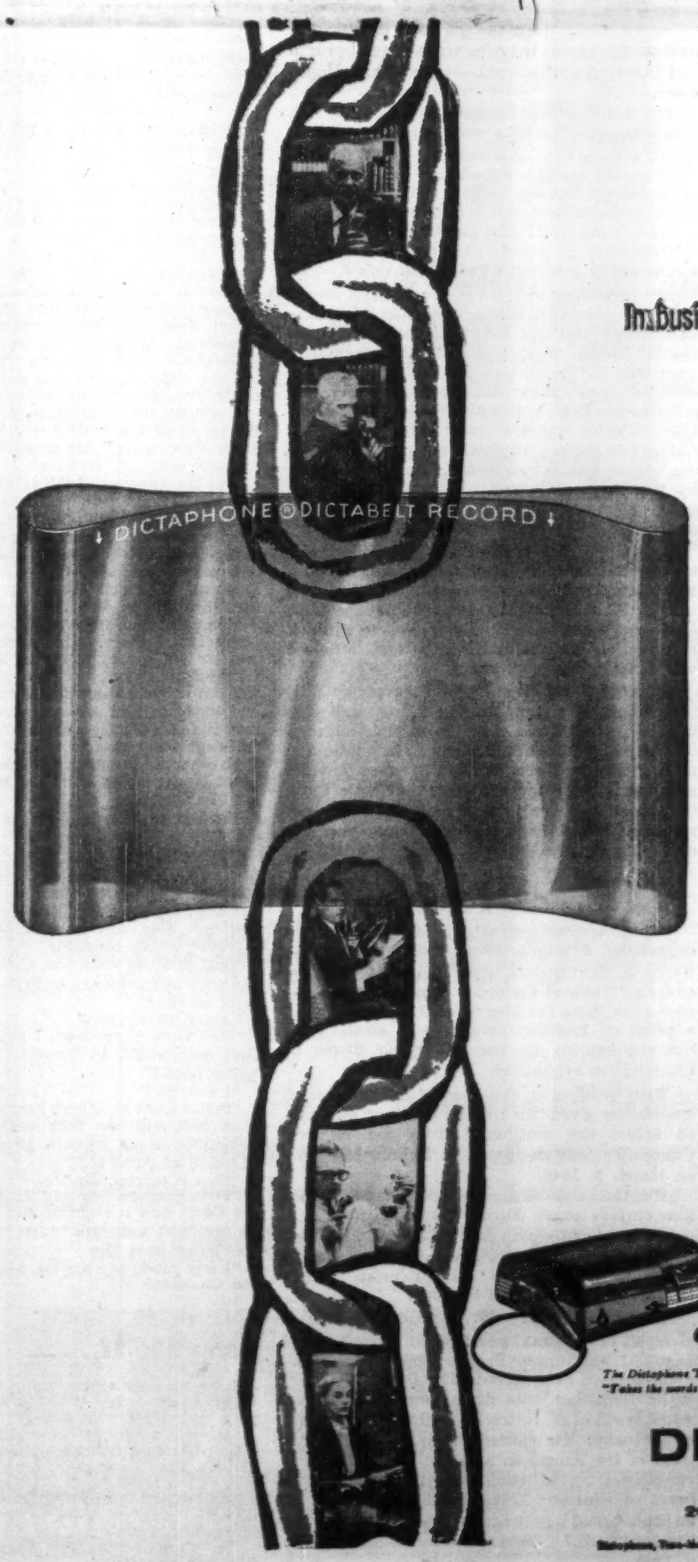

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The Curse of Mephisto

A nation lives as it thinks. North American well-being is explained less by physical toil than by thinking — hard and constructive thinking — about what might be. One of present-day Britain's troubles is that there is too little thinking of this kind by British leaders.

The island once famed for enterprise is becoming a static and rigid economy in which debate centres tiresomely and everlastingly on "fair shares" of existing supplies. This negative and sterile approach to the economic problem has infected the ruling Tories. It has palsied and paralysed the Socialists. As the Economist (London) says, the curse of Mephistopheles is upon them. "the spirit that evermore denies."

Hugh Gaitskell, the new Labor leader, recently said that competition, though wasteful, is stimulating. Sometimes, he added, it's hard to tell whether more is lost or gained by setting up a state monopoly. This is an astonishing admission from a Socialist; but does it mean that Mr. Gaitskell has abandoned nationalization as a Labor party plank? Not at all.

While chary of proposing public ownership of any specific industry, Mr. Gaitskell now advocates the creation of "one or two large public corporations" which would operate like investment trusts. They would build their portfolios by acquiring, through increased death duties, real estate and equities. The logical end result, of course, would be the ownership of all Britain (every acre, every brick and every industrial share) by the Government.

Mr. Gaitskell says there must be "a high proportion of publicly owned property." Why? For no reason at all, or none given by Mr. Gaitskell, except that this condition would make for greater equality of income. He no longer argues, except in the tepid and formal tones of a man mumbling an obsolete text, that nationalization promotes efficiency, encourages saving or prevents unemployment. No: all he now claims for it is that it results in "fair shares."

Existing taxes in Britain and the present power of trade unions are adequate, as the Economist notes, to obtain for workers their full share of the national product. Higher death duties could, at most, transfer another 1% or 2% of the wealth. Grubbing among these shabby and futile devices, the Socialists cannot lift their eyes and look at the plain fact that workers' real incomes could readily be increased 4% to 5% without making anybody poorer.

On this continent, to be sure, there is rough competition for bigger slices of the pie and there are those who think that making some people poorer, even if it makes nobody richer, is an end in itself. But at least there is here a fairly wide recognition that real economic gains come from higher productivity, new methods, new processes, new materials, new ways of selling. It's lamentable that Britain, once the world's exemplar of this truth, is now engrossed in merely reshaping things as they are.

The Need for Basic Research

Eleven gifts or bequests for medical research were recently acknowledged with thanks by the University of Toronto. Eight of the givers named some particular ailment, rheumatism, cancer and sclerosis among them, as the subject of inquiry.

Study of a disease by itself, as an isolated phenomenon, may yield useful results. But a report from the American Foundation, New York, gives a warning about its limitations. This foundation, founded 1924 by the late Edward Bok with $2 million, does one large investigation at a time and has just published the results of a 15-year study under the title: Medical Research, a Midcentury Survey.

It corrects the cheerful belief that modern medical science is knocking out diseases one by one like ninepins by discovering new wonder drugs and diagnostic devices. There has been no such chain-reacting series of miracles.

The report stresses the need for more pure basic knowledge. The doctors can now treat cancer with some success but they don't know how it starts. They don't know why some people are susceptible to rheumatism, whether alcoholism is chiefly mental or physical and what causes hypertension. They don't know why X-ray surveys still show tuberculosis cropping up though mankind supposedly had licked this plague.

The answer to any of these questions might be an incidental by-product of study of the fundamental nature of living tissue. In physics it was pure research, with no apparent practical aim, that led to nuclear fission. In medicine it may be pure biology, the study of life itself, that will solve the riddle of cancer.

Hint to philanthropists: basic medical research is in need of funds.

More to Do Than Listen

A rather repellent little game is being played in the House of Commons these days. To score, an MP must wait until a member of the opposing party leaves the chamber, and then say:

"If the honorable member for Petunia Siding were in his seat, I would say to him . . ." or "since the Minister is no longer present, I cannot ask him. . . ."

In cases where the member cannot catch the Speaker's eye quickly enough to score in this manner, he can say instead, "As the honorable member was not in the House when this item was explained, he does not of course understand. . . ."

All of this, of course, duly goes down in Hansard. If the incident is reported in the press, the player scores double. If an editor uses it as the basis for a horrified comment on absenteeism in parliament, the player wins game, set and match.

Many of those who engage in this pastime have been known to complain from time to time about the decline of parliament. The fact, however, is that nothing will do parliament more harm than the theory that a good MP must always be in his seat. This is nonsense, especially in the crowded, lengthy sessions of today.

The MP's most important job is to represent the people of Canada. Members are supposed to bring to bear on the Government the ideas and opinions of all sorts and conditions of Canadians. They can't do this if they're sitting all year in Parliament Hill. They need to get out and do some leg-work among their constituents.

Parliament shows signs, this session, of being badly ingrown; of being too wrapped up in its own concerns to be aware of what's going on outside Ottawa. In a country changing as rapidly as Canada, such a condition is unhealthy.

The obvious solution is shorter sessions, but there's no sign of any improvement along these lines.

More power, then, to the MP who goes home anyway, to meet his constituents and freshen up his ideas. He has little need to fear that voters will be impressed by the nasty little game of "are-you-there" going on back on Parliament Hill.

New Labels for Old Ills

One of the hazards of modern living is the temptation to use a fancy name for an old ailment in hope of getting more attention and a new type of treatment. "Virus infection" for cold sometimes yields a pleasant-tasting medicine with a high alcoholic content. This does very little harm when the actual treatment is left to the doctor, who knows an old-fashioned cold when he sees one. In the field of economics, though, this same human failing can lead to serious errors.

When, for example, an old-fashioned case of over-production is re-labeled, the public is apt to become very confused. In Britain, the layoffs in the automobile factories were described, dramatically, as "a crisis of automation." Now it's turning out that too many people were making too many cars for the market to absorb — an old-fashioned economic ailment if we ever saw one.

On this side of the ocean, house-builders both here and in the U. S. are talking about a "financial crisis" and a "money squeeze" to describe a situation that arises at least partly because last year the industry produced considerably more housing units than were necessary to equal the rate of new family formation.

Everyone knows that a cold is a miserable ailment, no matter what you call it; but even in these days of -mycins and -illins you have to go to bed to get over a cold. Similarly, a firm or an industry that's producing too much for the market to absorb is in an unpleasant spot; but giving the situation a fancy new name won't alter the ultimate remedy.

No Privacy Any More

A new American book makes hay of an old rule that was thought to be both inviolable and beneficial for all concerned. It lives up to its title, "Eisenhower: The Inside Story," by providing an authentic account of what happened at Eisenhower cabinet meetings.

The author, Robert J. Donovan, is a White House correspondent. Someone in authority (not named) asked him how he would like to have access to cabinet minutes and make a book of them. As this was like asking a broker how he would like to read the market quotations in next week's paper, the offer was accepted pronto and Donovan got to work — in a White House office.

His lively volume contains no disclosure that would ruin, or perhaps even hurt, Mr. Eisenhower's chance of re-election. It does show the President and his top officials wrestling with decisions about party policy, bills before Congress, personalities and world issues like the Korean truce. Mr. Eisenhower and his circle are depicted in moods ranging from gloomy and weary to infuriated and embarrassed.

It's surprising to learn that an official record of U. S. Cabinet tantrums, vacillations and disagreements actually exists on paper. Patrick Gordon Walker recently published an acount of procedure in the British Cabinet, to which he once belonged. It confirmed popular belief. No minutes are kept, wrote Mr. Walker. Members take no notes and are under oath to keep the discussions dark. All that's put down in writing, by the Cabinet secretary, is a summing-up by the Prime Minister. It records only decisions necessary for the guidance of the civil service.

In short it has been almost like one of the ten commandments that cabinet doings should be as secret as the confessional. Yet here we see in Washington the remarkable spectacle of a reporter being officially invited to ransack confidential cabinet documents and tell the world what they contain.

Of course cabinets have disagreements, if they don't consist of stuffed shirts, and any member who differs strongly enough with an official policy is entitled to say so in public and resign. But he's also entitled to privacy while a policy is being thrashed out; otherwise there will be an end to all frank speaking at cabinet meetings. We hope the Donovan example doesn't spread.

To Coin a Phrase

When he was recently given an honorary degree by Britain's most famous university, Harry S. Truman said he had never expected to be a "Yank at Oxford." Maybe it's another new experience for him to set Oxford right on a point of English history — a small point but one bearing on the interesting theme of Churchillian originality.

New edition of the Oxford Dictionary of Quotations gives "an iron curtain has descended across the continent" from Sir Winston Churchill's famous speech at Fulton, Missouri, on March 5, 1946.

But the same dictionary quotes "there is an iron curtain across Europe" from an article in a London newspaper, dated October 21, 1945, by one Vincent Troubridge. The implication seems to be that the world's most famous phrase-maker borrowed this one.

But along comes Mr. Truman to get it straight. In the first volume of his memoirs, at page 301, the former President quotes a Churchill message he received. The Prime Minister, as he then was, was discussing the proposed withdrawal of U. S. troops to the Western part of Germany. He viewed "with dismay the retreat of the American army to our line of occupation . . . bringing Soviet power to the heart of Western Europe and the descent of an iron curtain between us and everything to the eastward." Date of the message: June 4, 1945.

Napier Moore's

Scratch Pad

APPROACHING Hyde Park Corner, London's traffic maelstrom, progress along Cumberland Street was a matter of moving an inch at a time. Then for 20 minutes it ceased altogether. Along came a motorcycle cop. He came to a standstill alongside the vehicle I was driving. He gazed at the dammed-up streams of cars and shook his head sadly. I said, "What's the cause of the bother — Marilyn Monroe?" He didn't smile. He said, "No, sir, it's the Queen. She decided to give a garden party for 8,000 people, but she never said one word to me about it, and look at this mess!"

* * *

DESPITE THE WELTER of glaring headlines about murders, gang wars, strikes, actresses who are going to have babies, a famous defense counsel who drank himself to death and the selection of a young parson for the English team in the next Test Match, British newspapers still had enough big, black type with which to feature — you'll never guess — the Bankers.

Chancellor Macmillan did an almost unprecedented thing when he summoned the heads of all the big banks to a meeting. What he talked to them about was the credit squeeze, a major weapon in his war against further inflation. Having noted statistics showing that the banks have more money on hand than they had six months ago, the Chancellor just didn't want them to start lending again for purposes less essential to the national economy than the expansion of export trade. He was quite definite about it.

A banker friend of mine told me the banks would, of course, co-operate and squeeze even harder. He said, "If your account is overdrawn by as much as 10 shillings I'll be after you. We just can't have you causing our Chancellor sleepless nights." He was quite calm about it, though. I imagine that Mr. Macmillan found all the bankers calm and sensible. When, in 1914, Mr. Asquith was Prime Minister of England, he had a meeting with bankers and took a rather dim view of them. In the Daily Telegraph, Peter Simple quotes him as having said, "They are the greatest ninnies I have ever had to tackle. I found them all in a state of funk, like old women chattering over teacups in a cathedral town."

* * *

FURTHER MONETARY TIDINGS: Staying in a London hotel is the Sultan Abdulla Othman Fadhli, of Aden, and his cousin, State President Ahmed Ben Abdulla Fadhli. Accompanying them are three bodyguards; tough-looking, beturbaned fellows who carry daggers. The other night, the sterling equivalent of $50 vanished from a table in the bedroom of the cousin. A thief had managed to sneak past the bodyguards as they slept.

Lloyds Bank Journal, giving odd reasons for the turning in of damaged notes, quotes the case of the customer who reported, "Missing portions presumably eaten by my son."

* * *

IF THE STRIKE CALLED by 15 unions against automobile manufacturers within the British Motor Corporation should fail, and a considerable percentage of workers refused to heed the walk-out call, wives will be partly responsible for the failure. In many cases they have struck against strikes by refusing to cook for their husbands if they quit work. Others have helped to push their breadwinners through picket lines with strong arguments concerning mortgage payments on their homes, instalments on TV sets, and the difficulties of filling the needs of their children on strike pay.

It is just a little difficult to tell what the result of the conflict will be because strikers and non-strikers have all gone away for a two-weeks' holiday at the expense of the employers.

Last week, long queues of strikers lined up at the Austin factory in Birmingham to collect a week's pay and two weeks' holiday money. The holiday money averaged £20, which, in England, has more vacation value than has $56 in Canada. Then the Austin plant shut down for the annual fortnight's holiday. The same was true at the Oxford works of Morris. At the Briggs plant at Dagenham, the workers collected their holiday money and then went on strike because the firm laid off 4,000 men, there being insufficient work due to lack of parts from other strike-affected plants. Next night Briggs closed down for the annual holiday.

You can see how confusing it all is.

* * *

CAPTAIN FRANK RUSSELL, head of the Bahamas C.I.D., sends me the story of a young barrister who, appearing in the Supreme Court for the first time, was cross-examining a not-so-young police constable.

"And how far were you, Constable, from the accused when he first caught sight of you?"

"About 15 feet, Sir."

"You were in uniform, I presume? And you would be wearing heavy police boots?"

"I was, Sir."

"Police boots have very heavy soles, with hob-nails, do they not? And hob-nailed boots make a great deal of noise, isn't that so?"

"That is correct, Sir."

"Then perhaps you will explain to the Court how it was this man failed to hear you until you were only 15 feet away from him."

"I was riding my bicycle, Sir," said the Constable.

Stop Me If . . .

Hefty Stranger (returning to theatre between the acts)—Did I tread on your toes as we went out?

Seated Man (grimly)—You did, sir.

Hefty Stranger (to wife)—That's right, Matilda. This is our place.

* * *

"My husband is frightfully run down, doctor."

"Business worries?"

"No, it can't be that. His business has just been wound up."

Post Scripts

Grain Division Chief

The Trade and Commerce Department's new grain division chief, William Van Vliet, is a prairie farm boy who has spent much of his adult life running away from fish.

In 1917 he left his Quinton, Sask., birthplace at 15 to head for what turned out to be a B.Sc. in Agriculture and a master's degree at the University of Saskatchewan.

MR. VAN VLIET

From 1938 to 1941 he classified prairie land for the economics division of the Department of Agriculture.

Then he joined up, spent World War II in the Royal Canadian Army Service Corps in England, Sicily, Italy and Northwest Europe. He got out of the Army in 1946 after reaching captain's rank.

The year 1946 found him back in the economics division but this time in Ottawa. However, he found he needed a year on the prairie to build up his health. He spent it on a five-section farm growing wheat. "Trying for a surplus," he grins wryly.

Unexpectedly he got "a call" from the Department of Fisheries. And the man who'd seldom seen a fish—and now doesn't want to—spent the following winter in the prairie north (Athabaska and environs) on a frigid but useful economic study of inland fishing industries. He recalls spending most of his time wrestling with frozen aircraft engines, mushing with dog teams and hating fish.

In 1948, the Fisheries Department brought him back to Ottawa. But it was too late: the following year he left, joined the Trade Commissioner service.

For a while he thought he'd got away from fish. He spent 1950 in Paris as an advisor to Canada's mission to the Organization for European Economic Co-operation.

But fish caught up with him in 1951. He toured Denmark, Norway, England, Scotland and Iceland studying fishing industries again.

He served in Germany in 1952-54 as a commercial secretary (agriculture) and last year he had a glimpse of Iron Curtain trade from a similar post in Switzerland. "The trade heat is on," he warns, speaking of the Communists.

He's a 6 ft. 1 in. 185-lb. bachelor who claims he isn't athletic, never was, and often wears huge horn-rimmed glasses as though to prove it. But he rides horses and plays a reasonable game of golf.

* * *

Judge Studies Forests

Fate of British Columbia's $600,000,000 a year forest industry rests to a very great extent these days in the hands, and in the mind, of a modest, quiet-spoken native British Columbian, whose talent as a mediator has been proved time and time again.

Photo by Karsh
MR. SLOAN

The Chief Justice of B. C., Hon. Gordon McGregor Sloan, must know as much about forests as any other man in Canada. In 1945 he made an exhaustive study of them, and for more than a year now he has been listening to evidence about this, B. C.'s most precious basic industry.

Soon he will settle down with the numerous briefs that have been presented to him, and come up with a new plan for the most economic development of the forests.

Chief Justice Sloan was born in Nanaimo, on Vancouver Island, in 1898, which makes him just past 58, though he could be at least eight years younger, if you judge by appearance. He's slight of build, has golden hair, thinning out very little.

His father was Hon. William Sloan, B. C. Minister of Mines, a politician of the old school, and so Gordon grew up surrounded by politics.

When he was 35, and practising law in Vancouver, he ran as a Liberal in Vancouver-Centre in 1933, and won a seat in the legislature. Immediately the then premier, Thomas Dufferin Pattullo, recognizing ability in that uncanny way of his, made Gordon Sloan his Attorney-General.

Sloan remained in this post for nearly four years, then was appointed to the B. C. Court of Appeal. In 1944 he was made Chief Justice, the youngest in B. C. history.

As Chief Justice, Sloan acts as administrator when the lieutenant-governor is out of the province. Once he prorogued the legislature. He signs orders-in-council and other papers of state under his own seal.

He has inquired, for successive B. C. Governments, into the Workmen's Compensation Act, and the salmon fisheries. He has mediated forestry strikes and in 1945 mediated, for the Federal Government, a Canadian railway strike.

His chambers are in Victoria's picturesque, ancient, turreted court house, which he, as an amateur historian, loves dearly though he admits it's a bit overcrowded these days, what with the province growing so mightily.

At an auction of antiques, you'll usually find the Chief Justice and Mrs. Sloan, and it's not uncommon to see him wheeling a cart in a super-market, while his wife picks out the groceries. The Sloans, though in the top stratum of B. C. society, live simply in a gracious seaside home, which their grandchildren love to visit.

* * *

Jaycee Chief

Guiding the affairs of the Junior Chamber of Commerce of Canada for the next year will be 33-year-old G. L. ("Flip") Filippelli of Trail, B.C. He was elected as National President at the 21st Annual Convention in Winnipeg.

MR. FILIPPELLI

Born in Trail, Filippelli went to school there, later at the University of Alberta, from which he graduated in 1945 as a Bachelor of Science (Chemistry). That led naturally to a job in his home town with Consolidated Mining and Smelting where he is now research engineer.

Filippelli's "Jaycee" career started in 1947 when he became a member of the Trail Chamber. He progressed with this unit through the offices of director, vice-president and president. In 1954 he was elected president of Region a/1 (British Columbia and the Yukon Territory) and last year at the National Convention in Halifax a national vice-president with the government and civic affairs portfolio.

He has been active in a number of other organizations, including the Red Cross, and the Boy Scout movement.

Married in 1949 to the former Lillian Elder of Trail, the Filippellis have two small boys.

What Others Are Saying

Editorial of the Week

The Cost of Government

Victoria Times

In the last year, says a report of a Senate committee, the average Canadian paid 31 cents in taxes out of every dollar of income. On average, therefore, we are working nearly a third of our time, about two days a week, for the state. People in the higher income brackets are working more than that for the state and British Columbians must work more than the average Canadian since provincial taxes here are far above the Canadian average.

The Senate committee estimates the expenditures of all governments, federal, provincial and municipal, at $7.1 billion in 1955, as against $1.1 billion in 1939. They have thus risen about 600%.

More surprising is the fact that they have increased steadily since the last war. Peace brought no reduction in the total. While the national Government spent almost exactly the same in 1955 as in 1945, the last war year, the provinces raised their budgets from $355 million to $1.4 billion, and the municipalities from $305 million to $1.1 billion in this postwar decade.

The tax burden of Canadians, though high by the standards of the past, is about the same as that of Britain and the United States. In Britain about 36% of the national income goes into taxes; in the United States 30.7%.

Other People's Views

CANADA HAS BUILT more new homes in the last 10 years than there have been families to fill them, the **Windsor Star** points out. "Proof of this is in adding up the total number of housing units built since 1945 and the number of new family formations. The first came to 911,000; the second to 843,000. Canada's millionth postwar home is now being built."

THE BRISK PACE OF WHEAT SALES in recent weeks has permitted stepped-up farm deliveries, the **Winnipeg Tribune** says. "Farm cash income has increased as a result. From May to the end of July, Western Canada's cash income from wheat is expected to total about $80 million. Exports of 300 million bushels added to domestic consumption just about equal the 1955 crop. Thus while there will be a half-billion bushel carryover the storage situation will be no worse than last fall — perhaps a little better. All in all, the present farm picture is encouraging."

THE STATE OBVIOUSLY cannot afford to educate every high school graduate who wishes to attend university, says the **Fredericton Gleaner**. "Indeed, huge state contributions to university education cannot be the whole answer, for many institutions are sponsored by churches or by private means and cannot accept state control. This is where the big corporations can enter the picture. If the church can educate its future clergymen, the big companies can contribute to the education of their future employees."

PEOPLE OF NEWFOUNDLAND need to be helped to become good Canadians, says the **Evening Telegram** of St. John's. "We agree with a speech made recently in Manitoba by the Hon. J. W. Pickersgill: 'For at least a generation after Confederation, it was hard for the people of Nova Scotia and New Brunswick to think of themselves as part of a new transcontinental nation.' How much harder is it for the people of Newfoundland, who surrendered their own sovereignty voluntarily to become part of another sovereign state, to think of themselves as Canadians? Certain it is that we would become Canadians much more quickly in spirit if we were treated as a full-fledged partner."

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Peace Without Victories

War Danger Recedes but The West Isn't Gaining Friends; Negative Approach, It's Suggested, May Be Main Weakness

By J. B. McGEACHY

A story recently told by Mr. Pearson, the External Affairs Minister, is a suitable opener for some thoughts on international affairs. A young woman eager for knowledge attended a learned debate on a difficult question. "I'm so glad I came," she exclaimed at the end. "I was very confused about the subject. I'm still confused, of course, but on a much higher plane."

This might well be the effect of reading any half-dozen contemporary speeches or articles on world affairs. There's a consensus that the West is losing what's called the initiative while the Russians are winning and holding it. But the initiative in what? In making friends, in political conversion, in preparing for war, in reducing armaments, in technical education, in offering aid to the backward? Different answers are given; and there's no consensus at all about what the democracies should do next.

J. B. McGEACHY

Of course it's easily possible to pull too long a face. Undoubtedly some people are too alarmist, too much given to scolding our leaders for not producing quick answers to hard problems. After all, the nations are at peace; and the most reliable guides say that the danger of war has lessened. The aim of diplomacy, it's to be remembered, is not to arrange peace forever but to arrange it for a year, a decade or, best of all, a generation.

Painfully Obvious

But it is painfully obvious, even though no war looms up, that some Western policies are not succeeding. Premier Nasser of Egypt has just given a nasty jolt to Western complacency about the Middle East. The slow crumbling of NATO is creating a policy vacuum in Europe. Chiang Kai-shek is no nearer power in Peking, but farther away from it, than he was when the civil war ended in his defeat and exile in 1949. But surely, someone says, nobody takes seriously any longer the idea of Chiang's return. In that case, why do the U. S. and Canada (and many other countries) still call him the ruler of China?

What is wrong with Western foreign policy? The diagnosis here offered, not original, is that it's too negative in a world of upheaval and change. We're too taken up with stopping or out-manoeuvring the Russians, not enough with putting over a positive program of our own. The negative approach leads to uncertainty about methods. If stopping the Russians is our main policy aim, how should it be done?

Washington this summer supplied an example of foggy thinking on this question. Current doctrine is that the battle we have to fight with the Russians will not be military but economic. Yet Congress, while refusing to give President Eisenhower the money he wanted for "foreign aid," pressed upon him far more than he thought he needed for defense. There's clearly something wrong here.

We Out of Tune?

The mere fact of change, as Barbara Ward argued in a recent article, puts the West at a disadvantage. The Russians are in tune with 20th century turmoil. They caused it, to a large extent. They are the exponents of a revolution that has been pretty successful in its 39 years of life to date. In sharp contrast the Western countries are out of tune. We are against fundamental change. We like the status quo because it has been kind to us, supplying us with wealth unknown to the mass of humanity.

This is why Western action in world affairs often appears to be (and usually is) designed to shore up things as they are. Instead of initiating policies, we seem to be merely reacting (and in a hostile manner) to initiative shown by others. While the Russians go about preaching inevitable revolution and the brave new world, we seem to say: "Everything would be lovely if only those dreadful Russians could be stopped."

Let us apply these general ideas to particular trouble spots and begin with Egypt. Mr. Nasser has decreed that the Suez Canal is now nationalized Egyptian property. The immediate reaction in some minds was a demand for a blockade or perhaps even a few salvoes from a gunboat—the classic but now obsolete medicine for upstarts in backward countries. But let us leave the surviving Blimps to boil in their own apoplexy.

First it's to be noted that the Suez Canal (a private enterprise) opened for business in 1869 with a 99-year concession. Under the agreement the canal was due to be handed to Egypt, free of charge, in 1968. Mr. Nasser has beaten the gun by 12 years. He says he will pay off shareholders at the market price; and this is at least a better deal than was offered by that bizarre Persian, Mohammed Mossadegh, when he nationalized the Anglo-Iranian Oil Company without any compensation at all.

Keep Suez Efficient

There will be, very properly, a fight to make sure that the canal, whoever owns it, is run for the general good of world traders. But if Mr. Nasser is chiefly interested in bagging the company's handsome annual profits, as he appears to be, he will have to aim at high efficiency and he won't want to drive away customers.

Whatever happens, the large question will remain: How did the West get into this pickle?

It's easy to pinpoint the immediate cause of Mr. Nasser's arbitrary action. The U. S. and Britain, having promised to help Egypt to build the huge Aswan dam, suddenly withdrew this offer for no apparent reason except that Mr. Nasser wasn't making appropriately grateful speeches. Cairo had been loudly proclaiming that if the West did not help with the dam Russia would be happy to oblige. When Moscow promptly made it plain that Russia is no more interested (for the present anyway) than Britain or the U. S., Mr. Nasser was exposed as a bluffer on a grandiose scale. He was as angry as any man would be who had just bet $50 million on a pair of deuces and lost. So he snatched the Suez Canal.

From such childish pique does policy often spring. But was it smart politics to show up the swaggering Egyptian premier in this way? Didn't Mr. Dulles show himself up too, as a man who doesn't really care whether or not Egypt acquires the desperately needed new arable land and electrical power the Aswan dam would bring? Who was too clever, Mr. Nasser or Mr. Dulles?

"So To Love . . ."

Dr. Charles Malik of Lebanon, a diplomatist of note, says in a current article that the right Western policy is "so to love the people of the Near East and so to understand their difficulties as to make them know and choose their own good." Besides being a public figure, Dr. Malik is a philosopher and theologian. Some may find his prescription of love too high-flown; but it can be brought right down to earth.

The West, and in this context especially the U. S., treated the Arab world with contempt when it carved Israel out of Palestine in 1947. The Palestinian Arabs were assumed to be of so little account as human beings that they could be pushed out of their homeland by decree and would then have no right to protest, no right to feel unjustly treated.

This grievous wound to Arab pride might have been forgiven if the Western Powers had tackled the problem of the Palestinian Arab refugees. Nothing has been done; the refugees are still huddled in wretched camps on the Israeli borders. Nothing was done to promote the Arab-Jewish Palestinian federation called for in the UN resolution of 1947. Nothing like the Marshall Plan was ever pressed upon the Arab states though they needed it as urgently as the Europeans. The fiasco of the Aswan dam offer capped the story.

Two Legitimate Aims

How is all this related to general criticism of Western foreign policy? Quite clearly. The Western countries have shown two kinds of interest in the Middle East. One was retention of their property, chiefly oil; or, in other words, the maintenance of a status quo. The other was to outwit the Russians and exclude their influence. Both aims were quite legitimate. The point is that the West has been so obsessed by them as to forget that the region has human value and interest for its own sake, quite aside from alien property rights and the ideological war. It can't be denied that the Western countries have failed either to appease Arab resentment of Israel (which would be a worthy kind of appeasement) or to recognize, applaud and actively help Arab aspirations for a richer life.

Let us look briefly at other spheres of international action.

Why is NATO losing its vigor? France's contribution to its armed strength has been reduced nearly to the vanishing point by the commitment of French forces to North Africa. Those 12 German divisions, proposed as long ago as 1950, still exist only on paper and may turn out to be a myth if the Social Democrats win next year's West German election. There is talk in the U. S. of withdrawing the American units posted in Europe.

Now there may be excellent reasons for a redeployment of Western strength and a replanning of Western strategy. Perhaps the danger of a Russian land invasion has passed. Perhaps the next war, if that calamity ever happens, will be fought exclusively with atomic bombs and guided missiles. But surely there was more to NATO than merely a military alliance. Was it not linked with the grand design for European unity and for an "Atlantic community"? Why are these projects fading into limbo?

Negative Approach

The answer is simple. The crusade for European union was, as one can see it now, a clear example of the negative approach to world problems. What was the reason given for federating France, Germany, Italy and the Benelux group? It was that united they might stand up to Russia while singly they could not. And so, now that the Soviet threat has (supposedly) disappeared, so has the impetus for union. Yet European federation, involving the end of the long Franco-German feud, was a proposal wholly admirable on its own account, wholly desirable even if neither Lenin nor Stalin had ever lived.

Chiang Kai-shek, of course, is the symbol of the most negative policy in recorded history. The Western countries (or some of them) are reacting to a Communist success, the Chinese revolution, by pretending that it didn't happen. What the fruits of this queer line are expected to be goodness only knows.

Some may see plausibility in the argument that the millions of Chinese outside China would go Communist if recognition were withdrawn from Chiang. But if this is so, their adherence to the Western cause rests either on a gross error of judgment or on an equally gross deception—since Chiang's reconquest of the mainland isn't going to happen. Are we to base our Far Eastern policy on a legend?

Disarmament is another sphere in which the Russians sound positive, the West sounds negative. There can be no doubt that a majority of mankind approve the Soviet stand against further atomic bomb tests. But this whole subject is now so tangled in obscurity of language and meaning that the public has ceased to follow the debates.

To wind up this argument, the net of it is that the Western Powers, while keeping an eye on Russia and maintaining their military strength, should accept the facts of political change and, in adjustment to this change, devise positive policies not to compete with the Russians or outsmart them but to promote the general good.

Is the confusion now on a somewhat higher plane?

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What is a good breakfast? It should supply 25 to 33 percent of the vital nutrients needed for the day. It should include fruit in some form; bread made from whole-grain or enriched flour; cereal or eggs, meat or fish; and milk either to drink or use on cereal or in a cooked dish.

A breakfast planned around these foods, adding other things you like, provides the "pickup power" you need after having fasted some 12 hours from the meal the night before until breakfast the next day.

Moreover, every item on a wholesome breakfast menu supplies important nutrients. Citrus fruit or fruit juice helps fill your need for vitamin C. Whole-grain or enriched bread and cereals yield energy, B vitamins, iron and other minerals. Milk is important for both its calcium and its proteins, and eggs and meat for their high-grade proteins, vitamins and minerals.

A breakfast that gives you these food elements may help you escape mid-morning fatigue . . . *and helps you to avoid overeating at lunch or dinner.* This is why overweight people need well-balanced breakfasts.

If you or members of your family seldom feel hungry for breakfast . . . if your appetites are not aroused by the tempting aroma of sizzling bacon and eggs . . . you might get into a good breakfast habit if you try some of the following suggestions:

1. Start the day at least 15 minutes earlier. This will allow more time for the family to eat unhurriedly without risking tardiness at school or lateness at the office.
2. Try to take a bit of light exercise before breakfast, preferably in the fresh air. This may stimulate your appetite.
3. Vary breakfast menus as much as possible. New flavours, new ways of cooking and serving can make breakfast a looked-forward-to meal.

If the leisurely, well-balanced breakfast habit is followed, every member of your family may be helped to feel better, think more clearly and work more effectively.

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'Get Hot' Is The Plea From Retail Stores Across Nation

(Continued from page 1)

business has suffered from the weather, too, though non-seasonal item sales have softened the setback.

Appliance houses report declines in refrigerator and air conditioner sales. TV sales are down, radio sales have increased.

Quebec

MONTREAL—The weather has cut into volumes. Dollarwise, however, the picture is less gloomy. There has been a trend toward purchase of higher grade, higher price merchandise.

Industry is estimating sales volumes for the season will be about 2% - 3% lower than last year. A few retailers say 5% lower. To date, it is reported, sales are running slightly ahead of the corresponding period last year. Provincial department stores were 18.1% up in the week ended July 25.

Prices are largely unchanged in the soft goods field, with low grade merchandise sales declining due to the popularity of higher grades. Hard goods prices are firming, allowing electric appliance dealers better margins. Television set sales are still regarded as poor. Radio and phonograph sales are well up on 1955, with a trend toward better grades.

In the first 10 days of the fur season, business looked promising. Sales were running 5% - 10% higher than in 1955, with prices up, too. Retailers are pinning hopes on good fall weather, on the grounds that while most of the summer sales have been lost forever, the money is still in the hands of the consumers.

Newfoundland

ST. JOHN'S — Despite heavy consumer investment in new cars and TV sets early in the season, there seems to be more money about than in 1955. Newfoundland weather persisted rainy and foggy until the end of June, cutting sharply into vacation-time buying.

Casual living trends now firmly established have upped sales of sportswear. Summer cottage needs have strengthened hardware lines, with lawn mowers, shears, power tools selling unusually well.

Other good lines have been women's dresses, especially budget department sales.

New Brunswick

FREDERICTON—Retailers report cool weather has caused summer merchandise decline, but draperies, piece goods, linens, china and gift items are all ahead of the corresponding period last year.

China and gifts are up 30%, millinery 35%, piece goods and draperies 15%, costume jewelry 11%, men's furnishings 20%, linens 10%.

Apparel trade is running level or slightly below last year with some linen prices increased. The trend is definitely toward better grade items, with dollar volume upswing making up for item sales decreases. Despite lateness of season, cotton skirts, summer jewelry, swim suits, sun dresses, play suits are in good demand.

Household furnishing dealers report appliance sales maintaining last season's averages, except for sharp seasonal drop in TV set sales. Sporting goods, camping equipment, picnic supplies in very strong demand. Tourist gifts running level with 1955.

Alberta

EDMONTON—Retailers in Edmonton area report brisk increase during recent hot spell, but past week's rain caused setbacks. July business suffered, despite increased volume of visitors, because of horse race betting. Record $1.5 million went through parimutuel machines.

Hardware prices have increased slightly due to labor costs and freight rates. Household appliances and building materials are also rising in price.

Manitoba

WINNIPEG — Summer trade average slightly above last year despite only moderately warm summer. Camping equipment, summer clothing and bathing suits are the best lines. Generally, sales volume is 5% up on 1955.

Refrigerators and deep freezers increased sales as 1956 crop of fruit and vegetables started to come in. Memories of last year's heat encouraged air conditioner sales. Oil-burning furnaces have also begun to sell.

Major appliance dealers have started August sales and are doing more advertising and promotion. No price change in heavy lines, but new models are slightly higher.

Saskatchewan

REGINA — Expectations of a good crop have added impetus to retail sales in southern Saskatchewan.

In Regina, **F. W. Woolworth and Co.** reported 12% increased sales in all lines of merchandise. **S. S. Kresge** reported good volume generally although summer buying had fallen off.

Farm machinery sales have been pushed above last year's figures by crop prospects. **International Harvester Co. of Canada** reports 25% increase to date. **Minneapolis Moline of Canada Ltd.** reports Prairie Provinces sales up 17%. **Cockshutt Farm Equipment** noted a 5% hike in volume.

PRICES

(SEE BUSINESS TRENDS ON PAGE 2)

Copper, tin markets have firmed and most scrap metals have risen ½-1c lb. Reason: Suez Canal dispute.

Steel hikes expected soon following strike settlement. Predictions: $6-$8 here and in the U. S. with another increase next year.

Olives, imported from Spain at $22 per fanega (1/3 barrel) last year, now fetching $40 for frost-hit crop. Current crop, harvested for curing next month, will not reach Canada in time to stop pre-Christmas hikes.

Rye starts back on upward trend as reports of fair to average crop come in from Western Canada. October futures quoted $1.27 compared with $1.39¼ in the U. S.

Builders' hardware, door locks, window sashes, rising steadily along with paint, electric fittings, etc. It's forcing up all construction costs.

Color TV now being introduced by several manufacturers, ranges upward from RCA Victor's 21-in. screen $695 set.

Approximate Quotes
SUPERVISED FUNDS

		Bid	Asked
Supervised	Income Fund	$4.54	$4.59
"	Growth Fund	2.51	2.54
"	American Fund	6.48	6.55
(1955)	Executive Fund	37.62	....
(1956)	Executive Fund	30.87	32.18

Further information from:
SUPERVISED INVESTMENT LIMITED
360 St. James St. W., Montreal, Que.

C. ALLAN FORAN

Chrysler Job To Foran, 31

The newest addition to top auto company management in Canada is one of the youngest senior executives in the nation.

He's C. Allan Foran, this week appointed executive assistant to President Ron. W. Todgham of **Chrysler of Canada.** Foran is a 31-year-old former Toronto lawyer who during his three years with the company has been successively, corporation legal counsel, assistant secretary, corporation secretary and assistant to the executive vice-president.

Foran is a member of one of the country's youngest executive teams. Chrysler policy of recent years has been to name more Canadians and more young men to top positions.

One result was Todgham's recent appointment as president. He's 45, the company's first Canadian-born president.

Foran was born in Winnipeg, educated in Toronto, graduating from Osgoode Hall.

From 1950 to 1953, he practiced in Toronto, specializing in corporation and commercial law. Foran also served as an instructor at Osgoode Hall.

He's married, has three children.

Pipeline Finances Hinge On Canadian Sales Alone

(Continued from page 1)

former general manager of the Royal Bank of Canada, who recently joined the Board of Directors of T.C.P. now heads a Finance Committee working at this project.

The Washington end of the story is told in this report from a Financial Post special correspondent:

Washington Events

WASHINGTON—More complications and delay have been tossed in front of the Tennessee - Midwestern applications before the F.P.C. to import natural gas from the transCanada pipeline.

The latest move in the highly complicated F.P.C. hearing is a decision by the full commission to refer back to presiding Examiner Francis L. Hall the motions filed by opposing companies to dismiss the Tennessee-Midwestern applications.

This is the first time in recent history that such a referring back of the motions to dismiss has occurred, observers here say.

Mr. Hall himself told the Financial Post: "I have never known them to refer back to the examiner at this point."

The move may mean a delay of three or four months in the case. Mr. Hall must study the 6,301 pages of direct testimony taken at the hearings this past winter and spring. Following submission of his recommendation to the full commission the companies who filed the dismissal motions have 20 days in which to file exceptions to Mr. Hall's recommendation. Following this 20-day period there may be a period for oral argument on his recommendation. Then finally, the matter would be again given to the commission for their study and final recommendation.

The idea behind the move appears to be to give the commission every scrap of information available in the case.

The commission's final recommendation on this point is a very long way, however, from completing the Tennessee-Midwestern case. It is not even the halfway mark. The applications filed ask for permission to import 204 million cu. ft. of natural gas per day from Trans-Canada. Because of the international ramifications of the case, it has become one of the most complicated ever considered by the F.P.C. It also is complicated by the fact that the score of opposing companies seem to be determined to prevent the Tennessee Gas Transmission Co. from continuing its aggressive expansion program.

In a nutshell, the case before the F.P.C. has progressed this far:

- The Midwestern-Tennessee applications were filed.
- The first phase of hearings on the applications (the taking of direct testimony) has ended.
- The opposing companies asked the full commission to dismiss the applications.
- The full Commission has referred the motions to dismiss back to the Presiding Examiner.

Throw Out Motions?

It is generally felt here that the odds favor the Examiner and the full Commission recommending proceeding with the Tennessee-Midwestern applications and throwing out the motions to dismiss.

Now, in another nutshell, here is what still has to be done in the case:

- The Presiding Examiner must make his recommendation.
- The opposing companies have a chance to file exceptions to the recommendations for 20 days after it is made (that is assuming the recommendation goes against their motions to dismiss).
- The opposing companies may then have a chance for oral argument against the recommendation.
- Then the recommendation goes to the full Commission.
- The full Commission considers the recommendation and makes its decision.
- Assuming the Commission decides to continue hearings on the application, the dates for new hearings are set.
- Cross-examination of witnesses will be held during the new hearings (and this would take considerably longer than the direct examination which lasted from February 14 to April 19).
- After cross-examination there usually is a short rest in the case.
- Then comes what is called re-direct examination.
- Then there is rebuttal of the re-direct.
- The Examiner then closes the hearings and retires to consider his decision.
- He makes an interim decision in the form of a recommendation to the full Commission.
- The full Commission holds a hearing for oral argument on the Examiner's interim decision at which all principals participate.
- Finally the Commission ends the hearing and retires to make its own decision.

It may be some time before the full Commission makes its decision. Even after this has been made some roads are open if the opponents lose. They can appeal for a re-hearing and failing that they can take their case to the courts.

This procedure, of course, is the normal type. Because of the great complexity of the Tennessee-Midwestern case, there are bound to be some new wrinkles added and more delays.

Good News For Nickel Stocks

(Continued from page 1)

of the world — Sudbury — would be encouraged to try for premium price deals.

Meanwhile, Canadian nickel producers have been expanding production. Along with Inco, **Falconbridge Nickel** and **Sherritt Gordon** are the major producers.

Nickel Rim Mines is expanding its production and **Nickel Offsets** is a small producer.

In the development and prospect stage are properties of **Eastern Mining and Smelting, Hudson Bay Mining & Smelting, North Rankin Nickel, New Manitoba, Arcadia Nickel, Norpax Oil & Mines, Lake Renzy, Eastern Metals, Jonsmith, New Kelore** and many other small properties which have been looked at recently.

Nickel Stocks

A rush of buying orders hit Canadian stock markets after the U. S. announced its premium-price offer for new nickel.

International Nickel, kingpin of the industry, led the parade of single-session gains with a jump of $4.25 at $102.75. It hit a high of $103⅛. The stock had been nudging $100 for a few weeks but couldn't break through until mid-week.

Falconbridge Nickel jumped $3.50 to $42.50 and touched $43; **Sherritt Gordon** gained 85c at $9.40 and touched $9.45; **Hudson Bay** gained $1 at $96 with the high $96.50.

Some of the other nickel features:

	Close July 31	Gain on Day
Nickel Rim	$4.50	.45
North Rankin	1.47	.17
Eastern Mining	6.35	.10
New Manitoba	1.25	.15
Arcadia	2.30	.06
Norpax	1.50	.12

Thinking of a MOBILE

SALES UNIT?

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Auto Production

	Wk. End. July 28	To Date 1956	To Date 1955
Am. Motors:			
Hudson	....	1,156	....
Nash	....	2,907	....
Total cars	....	4,063	2,548
Chrysler:			
Chrysler	210	5,009	....
Desoto	5	1,398	....
Dodge	1,087	34,761	....
Plymouth	1,133	29,965	....
Total cars	2,435	71,133	60,845
Dodge	200	4,219	....
Fargo	160	3,758	....
Total trucks	360	7,977	6,043
Cars, trucks	2,795	79,110	66,888
Ford:			
Ford	1,478	49,391	....
Mercury	191	6,135	....
Meteor	608	23,034	....
Monarch	298	6,485	....
Total cars	2,575	85,045	87,479
Ford	495	13,578	....
Mercury	205	5,598	....
Meteor divy.	33	492	....
Total trucks	733	19,668	17,896
Cars, trucks	3,308	104,713	105,375
GM:			
Buick	583	12,923	....
Chevrolet	1,944	41,197	....
Oldsmobile	224	7,202	....
Pontiac	1,169	29,639	....
Total cars	3,920	90,961	115,635
Chevrolet	644	14,775	....
GMC	385	10,077	....
Pontiac divy.	38	938	....
Total trucks	1,067	25,790	25,085
Cars, trucks	4,987	116,751	140,720
International:			
Trucks	....	9,902	5,053
Stude. Pack.	240	5,953	6,157
All cars	9,170	257,155	272,422
All trucks	2,160	63,337	54,319
All vehicles	11,330	320,492	326,741
Last week	11,825	....	....
Last year	11,994	....	....

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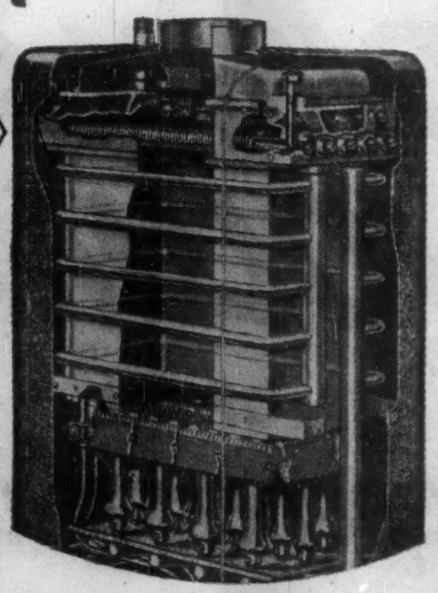

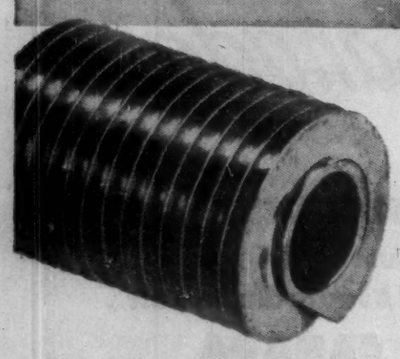

In RUUD Gas Fired Home-Heating Boilers, finned tubing is exposed to the direct heat of combusted gases. In these conditions, both soldered and mechanically bonded fins would fail. Only UNIFIN — in which the fins are extruded from the tube wall itself — can survive in these conditions, the most severe to which finned tubing can be subjected.

Illustrated above is a cut-away view of the RUUD Boiler, showing the Unifin unit at the top and the gas jets at the bottom. On the left is an actual size illustration of the Unifin tubing — all-copper, 1" diameter, 6 fins to the inch — which produces the fast rate of water heating demanded by RUUD, delivering at least six times the heat transfer capacity of plain tube of the same diameter. Compared with other types of fin-tube, Unifin's one-piece construction results in greater heat transfer, superior strength, and the ability to withstand high temperatures and severe vibration. For detailed information, write to:

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CANADIAN BREWERIES LIMITED

Notice of Dividends

Notice is hereby given that the board of directors has declared the following dividends payable October 1, 1956 to shareholders of record at the close of business on August 31, 1956:

1. A quarterly dividend of 31¼ cents per share on the outstanding $1.25 Cumulative Convertible Preference Shares of the par value of $25 each in the capital stock of the Company.
2. A quarterly dividend of 37½ cents per share on the outstanding common shares without par value in the capital stock of the Company.

By Order of the Board.

W. E. DREWRY,
Secretary.

July 31st, 1956.

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Our success during the past 60 years clearly demonstrates our ability to give all policy-holders the kind of protection they need — and the kind of service they want.

Our progress is due to our concern for all policy-holders — our thorough service has been so successful that today, Wawanesa protects the property of more Canadians than any other company!

The Wawanesa Mutual Insurance Company

HEAD OFFICE—WAWANESA, MANITOBA
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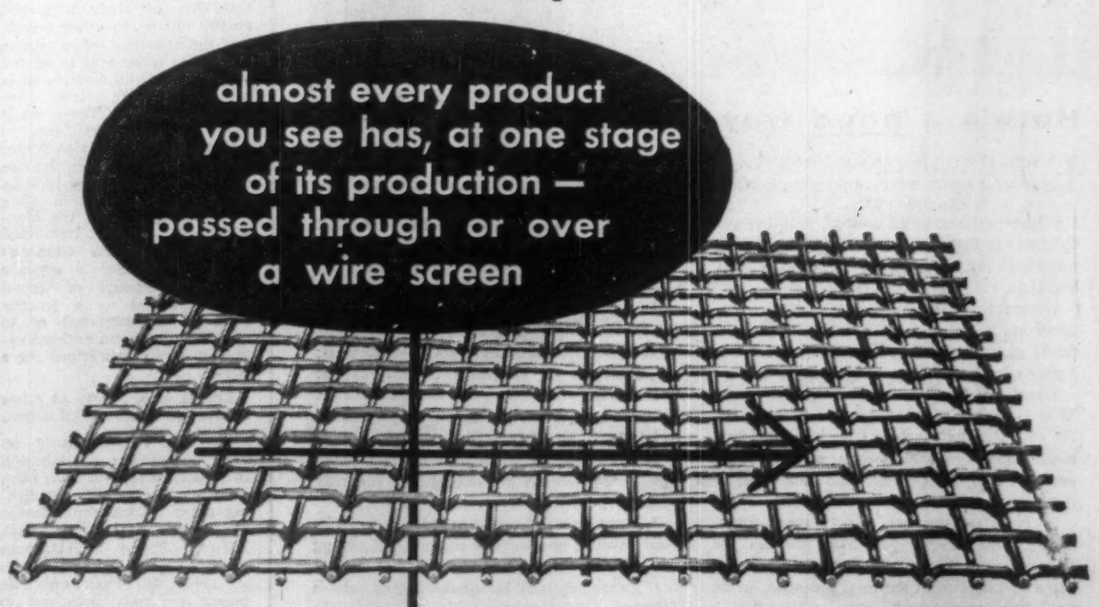
Look around you —

almost every product you see has, at one stage of its production — passed through or over a wire screen



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ANNOUNCEMENT

J. LANGLEY T. O. A. WEST

Joseph Langley, Drummond McCall & Co. Ltd., was elected President and Trevor O. A. West, Empire Brass, Calgary, was elected Vice-President at the Annual Meeting of the Canadian Credit Men's Trust Association held in Winnipeg recently.

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LABOR ROUND UP By JACK McARTHUR

Autos' Cold War Thaws Out

Ford Pact Strengthens Hope For Industrial Peace

The business world this week hopefully examined a rarity: A quiet settlement between **Ford** and United Auto Workers, free from the bitterness which has characterized most negotiations between UAW and big Canadian automakers.

What does it mean?

The widespread hope is that North America's auto industry is in for an era of peace and good will, so far as labor relations are concerned (FP, March 24).

Contracts are for longer than a year; the auto business is good and looks like staying that way barring an economic disaster; a wage-and-benefit pattern has been firmly set.

All these contribute to the hope that peace will replace a cold war punctuated by intervals of very hot skirmishing, as in the long, costly strikes in Canada at Ford in 1954-55 and **General Motors** in 1955-56.

The next crucial time for auto labor comes two to three years from now. Current contracts will be up for renegotiation.

Then UAW will have to decide whether it will go all-out for a shorter work week or for major improvements in the supplementary unemployment benefits plan which it has pioneered. Which choice it makes will depend upon conditions at the time.

The Ford deal, one union official pointed out, was reached "without benefit or hindrance" of a conciliation board.

Its details:

Total value over a two-year contract: About 30c; an annual wage improvement factor of 6c hr.; another 5c hr. for skilled tradesmen and certain other groups; SUB, with the usual company contribution of 5c hr.; higher shift premiums; better pensions; an assortment of improved fringes; a cost-of-living allowance of 2c hr., making the general increase immediately 8c.

Probable now:

—Fairly quick settlement at **Chrysler** along similar lines.

—A rash of settlements with auto parts plants, based on the Ford contract. When Chrysler signs, new parts plants deals will be speeded further.

* * *

Priced Out Of The Market

Some of Canada's railway labor has priced itself out of the market.

This seems to be the meaning behind the blast of hot argument which is blowing over certain contracts let by **CNR.** Some CCF and labor officials are complaining bitterly that contracting restaurant, car cleaning and newsstand work to private companies in certain cases resulted in the jobs being done by lower-paid labor than previously.

The **CPR** has been involved in a case with a similar principle. With the extensive use of diesels, the CPR claims that high-priced railway firemen are obsolete (FP, June 30). Yet the firemen want to keep getting wage increases along with other more productive rail workers.

Both the CNR and CPR actions stem from the same thing:

The desire of the two railways, under the prod of competition with each other and with road and water transport, to improve efficiency wherever possible.

Thus the CNR finds that certain wages have been pushed so high that it can save money by paying another company to do the job. In some cases this means union workers lose jobs which are then performed by non-union help.

Rail unions argue that this won't pay off, that it will cause a decline in the quality of service.

Replying to critics, Transport Minister Marler stood firmly on principle:

"We can only obtain the best management and operation of the CNR when management remains free to run the system to best advantage so as to procure the best results for the employees and for the public. . . ."

In other words: Why should the CNR-using public (and most CNR employees) subsidize certain employees through the payment of wage rates which raise costs unnecessarily?

* * *

Labor Briefs

The strike at **Schultz Die Casting** in Wallaceburg, Ont. (FP, May 26) ended with a bittersweet taste for United Auto Workers.

The 300 strikers won their 40-hr. week instead of 45. But their take-home pay is reduced proportionately. In the second year of a two-year contract, they get a 3c hr. raise. The strikers gave in when the company told them that it would have to move from Wallaceburg if they insisted upon a 40-hr. week with no loss in take-home pay, thus raising costs.

* * *

Strikes involving the tough, controversial Teamsters Union frequently have overtones of physical violence. Late last week, the Hamilton **Orange Crush** plant had its garage doors flattened with sledgehammers and five trucks damaged. The plant is struck by Teamsters.

A union official denied that strikers had anything to do with the incident. But he said, in effect, that it served the company right for employing men to replace the strikers.

* * *

One of the nation's longest strikes ended last week. After 5½ months a two-year contract was signed in Peterborough between radio station **CHEX** and National Association of Broadcast Employees and Technicians.

Its main significance: Seems now as though NABET's technique of persuading sponsors not to renew advertising contracts with strikebound stations isn't quite as effective as it appeared in an earlier Ottawa strike.

* * *

Eastern pulp and paper unions now have completed their negotiating season. A Nova Scotia signup with **Canadian Keyes Fibre** completes talks covering more than 50 mills from Pine Falls, Man., eastward. The pattern: Two-year contracts with 12c hr. increase the first year, another 5% in the second; better fringes.

This type of contract is just about the average this year for all Canadian industry.

* * *

Last week's decision of the independent Brotherhood of Locomotive Firemen and Enginemen to affiliate with the AFL-CIO in the U. S. and CLC in Canada sets precedent for similar affiliation by other independent rail brotherhoods.

New Growth Plans Likely At Chrysler

Chrysler of Canada soon will have to spend more millions for expansion of production facilities if the new car market continues to boom at a 400,000-sales-per-year pace.

The company sees little likelihood that Canadians will slacken car buying.

These facts emerged this week from a conference at which new Chrysler President Ron W. Todgham met the Toronto press.

Todgham gave no details of possible Chrysler expansion plans. The company has just finished a $54-million growth which has greatly increased productive capacity.

The probability of expansion is the sum of these factors: Todgham's confidence that Chrysler will get about 27% of this year's passenger car market; his feeling that the total market will remain at record or near-record levels; the fact that Chrysler has produced at near-capacity for much of this year.

Both **Ford** and **General Motors** are thinking in similar terms.

For competitive reasons, both are as reluctant as Todgham to fill in any details before a firm start is made on new growth (FP, Dec. 3, '55; April 7).

London Life Plans Computer System

Another Canadian insurance company is taking the plunge into the million dollar electronic computer field.

London Life Insurance Co., London, Ont. plans to install a Univac 11 system, made by **Remington Rand.** None of these machines has been installed in Canada yet.

Approximate cost of purchasing the machine runs to $1.8 million. The company has yet to decide whether to buy it or rent it.

The first electronic computer to be installed for office work in Canada was the **Manufacturers Life Insurance Co.'s** system in its Toronto head office. It went into service in March this year. Two weeks later **Prudential Insurance Co. of America** hired a similar machine. Both are IBM 650s.

Insurance companies use computers to handle routine clerical work. The equipment at London Life is expected to take 18 months to install.

ANNOUNCEMENT

WESTEEL DIRECTOR

F. L. GLASGOW

Westeel Products Limited announce the appointment of Mr. F. L. Glasgow, Montreal, as a Director of the Company to fill a vacancy caused by the resignation of Mr. A. F. Culver on account of ill health.

Mr. Glasgow is a Vice-President of Royal Securities Corporation Limited and is also a Director of Mid-Western Industrial Gas Ltd., and Trans Empire Oils Ltd.

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OSBORN & LANGE - GRANT LIMITED

announce the following executive changes effective July 17th, 1956

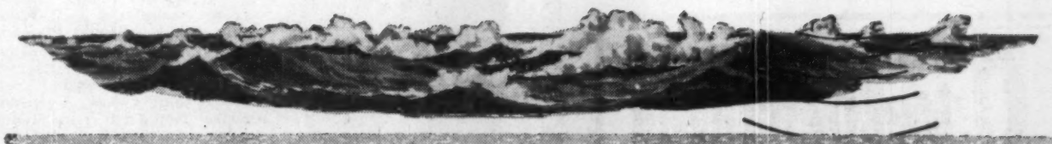
C. H. BARKER

formerly President, has been elected Chairman of the Board of Directors

A. W. GRANT

formerly Vice-President and Managing Director has been elected President and Managing Director

To seek the hidden enemy...



Soon, the oceans around Canada will be patrolled by the first aircraft developed specifically for Canadian maritime reconnaissance duties . . . the Canadair-designed CL-28.

Developed from the Bristol Britannia class by Canadair, this is the largest aircraft ever to be manufactured in Canada and we at Canadair regard it as a tribute to our capabilities that the RCAF selected us to do the job.

As large as a 100-seat airliner, the spacious fuselage of the CL-28 will be packed with the most modern detection equipment, enabling the crew to follow every evasive movement of even a deeply submerged submarine. Just as our far northern chain of radar stations is ever watchful for the hidden enemy, so now our sea approaches shall be kept "on guard".

CL CANADAIR LIMITED CANADAIR LIMITED, MONTREAL

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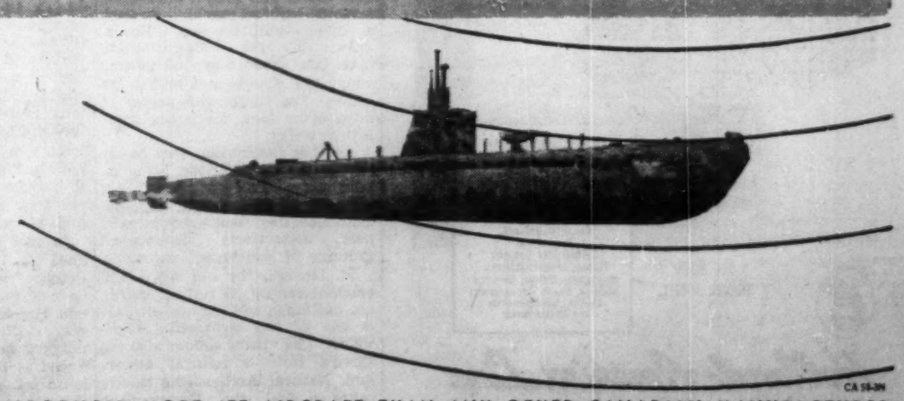

CA 56-39

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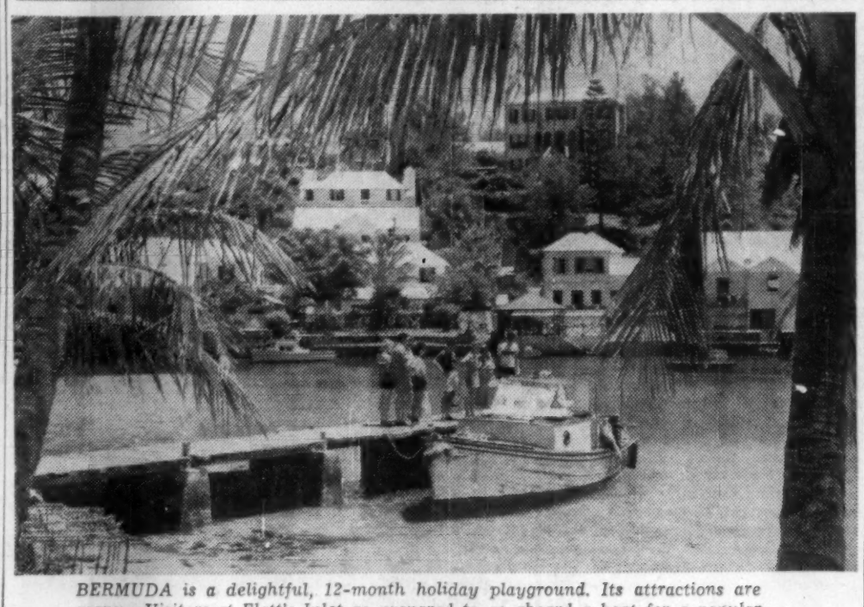
POST TRAVEL BUREAU

Where to go - how to go - where to stay



BERMUDA is a delightful, 12-month holiday playground. Its attractions are many. Visitors at Flatt's Inlet go prepared to go aboard a boat for a popular cruise of the island's many harbors, inlets and coves.

Bermuda Becomes North Americans' All-Year Resort

By B. W. RIDDELL

What month is best for a Bermuda holiday? There are 12 answers.

The "Season" for Bermuda-bound travelers used to be winter and early spring, when cold weather over most of North America supplies a powerful incentive for warm-weather holidaying.

But summer and fall have become tremendously popular in recent years. Even the home-and-fireside Christmas season sees tourists flocking to Bermuda for a look at the famous poinsettias in bloom.

Here is a 12-month attraction where man and nature combine to produce maximum beauty and charm. Houses of pastel-tinted sandstone with gleaming white roofs blend harmoniously with pink sand, sparkling water and blossoms of oleander, hibiscus and amaryllis. This oldest British colony has plenty of historic attraction and old-world atmosphere.

Climatewise, Bermuda is ideal for holidaying. The mercury seldom climbs higher than 82 deg. in summer or drops below 68 in winter. There is no rainy season.

Late summer and early autumn visitors to Bermuda this year will find conditions ideal for water sports and beach activities. There are a dozen miles of beach —all within a mile of any part of the colony. Some are long sweeps of unbroken sand; others are divided by coral walls into protected little coves. For privacy, there are beach clubs where you can rent a locker and lunch in style.

The smooth, warm water is ideal for water skiing. And a fascinating underwater world of fish and sea plants makes deep-sea diving interesting and exciting. Guides, launches and equipment may be hired with ease.

One of the world's great yachting centres, Bermuda is a sailor's paradise with its favorable winds and lack of troublesome currents or fogs. Sailing craft of many types may be hired, with or without professional skippers.

Deep-sea fishing is another big attraction for experienced or novice fishermen. Many species are caught off Bermuda's shores. The visitor may angle for one of the valuable prizes offered in the annual Bermuda Game Fishing Tournament. Sixteen species are eligible for entry in the competition that ends Oct. 31.

There's excellent tennis and golf. Most of the larger hotels have tennis courts and there are five public courts where, for $1, you can play all day. The islands boast three beautiful 18-hole golf courses (green fees $3 to $5) and two nine-hole courses where it's $2 for a game.

There is plenty for the sightseer. Cycling is one of the most popular modes of transportation as well as a convenient means of getting to out-of-the-way places. The visitor can rent a push-bike, a motor-assisted machine or even a bicycle-built-for-two. Horse-drawn carriages or English-style taxis are other ways of getting about the islands and seeing the sights. For those who prefer to browse on foot, there are some lovely walks.

Another fascinating way to see the beauty of Bermuda is by island cruise. You glide in and out of harbors and inlets, through ever-blooming sea gardens and past attractively landscaped grounds of waterfront mansions.

St. George, the old town and original capital, is full of charm, old buildings and historic sites. It is one of the sightseeing highlights. The visitor should also see Devil's Hole—a natural aquarium, Natural Arches—the calcite caves — and the Government Aquarium and Zoo.

Hamilton, the present capital, offers bargains in English china, antique silver and other imported goods. Exotic perfume is manufactured right in the colony.

One of Bermuda's biggest advantages is its hospitality. Tourism is responsible for approximately 85% of its income and Bermudans are masters in the art of making tourists happy.

Accommodation is excellent—and there is just about every type to choose from. There are big resort hotels, completely self contained and offering the last word in luxury.

The **Elbow Beach Surf Club** on the south shore, with its private beach, **Castle Harbour,** overlooking Harrington Sound and famous for fine cuisine, **Belmont Manor and Golf Club,** with one of the finest courses anywhere, are three. The **Bermudiana,** an important social centre of the colony, **St. George** in the old section, and the **Princess Hotel and Cottages** complete the list of large hotels.

Among the smaller hotels which provide excellent accommodation are **Harmony Hall, Inverurie, Sherwood Manor** and the **Windsor.**

Guest houses here are delightful. Charming garden and beach settings, attractive furnishings and excellent cuisine assure a restful, pleasant holiday. Many of these houses such as **Waterloo House, Glencoe, Mount Pleasant, Horizons** and **Rosedon** are beautiful old homes of the early settlement days. Other charming spots include **Buena Vista, Deepdene Manor, Newstead** and **White Sands.**

A popular form of accommodation — particularly for family groups — is the cottage colony. There are a number of these, many in fairly remote locations.

Among the better known cottage communities are **Reefs Beach Club, Faraway, Ariel Sands, Cambridge Beaches, Pink Beach** and **Scarrington.** Also well known are **Bermuda Cottages**—individual housekeeping cottages all separately located on or near South Shore beaches.

There are two luxurious clubs —**Coral Beach** and **Mid Ocean.**

Accommodation prices range from $5 to $20 per person per day. Generally there are three plans available — Bermuda Plan (bed and breakfast), modified American Plan (breakfast and dinner) and three-meal American Plan. European plan is occasionally offered but it is not common.

There are no night clubs, but night life at the hotels is always lively. Bands, including some Calypso groups, provide music for dancing on spacious ballrooms or moonlit terraces. Most hotels welcome non-residents to their dinner dances.

Bermuda is an easy place to reach. **TCA** operates direct flights from Toronto every Saturday and Sunday and from Montreal on Wednesdays. Flight time is approximately 5½ hrs. There are also daily connecting flights from Canada to New York and Bermuda via **BOAC, Colonial** and other lines. The round-trip fare, including meals served aloft, is $127.

For those who have time to spend, a leisurely three-day ocean voyage to Bermuda is most enjoyable. The **Furness-Bermuda Line** operates two luxury liners, the Ocean Monarch and the Queen of Bermuda. Both sail weekly from New York and fares begin at $125.

It is also possible to sail from Montreal aboard one of **Canadian National Steamships'** passenger-carrying freighters. Leaving every 12 days, these ships carry a dozen passengers. Fare is $168 return.

At any time of the year, Bermuda provides good holiday fare. Whether it's a rest you want, or exercise, this sunny Atlantic colony has all the facilities—plus luxury, a warm and friendly people, quaint charm and outstanding beauty.

You Will Need A Visa To Visit Portugal

Although some European countries have waived visa requirements for foreign visitors it is still necessary to obtain a visa for entry into Portugal. Canadians should apply to the Portuguese Consulate at Montreal — at present the only office in Canada with authority to issue visas. In a few weeks' time the Portuguese Consulate at Toronto will also offer this service.

Canadians going abroad should check with the consulates of the countries they propose to visit to be sure they have all the necessary documents and health certificates. In so doing they can prevent possible embarrassment and inconvenience on arrival in a foreign land.

Drilling Success For B-A Oil Firm

The British-American Oil Producing Co.—wholly owned U. S. subsidiary of **British American Oil Co.** — reports an extension to the North Clark's Fork field in Carbon Co., Montana. B-A's second producer in this field, Montana State No. 2, has extended the field to the northwest.

On a drill-stem test made from 8,900 to 9,043 ft., the well produced 10 barrels of 50-gravity crude oil per hour and gas estimated at 4 million cu. ft. per day.

Further details on B-A's Weisenhunt No. 1 wildcat well in Wood County, Texas; located in deepest part of East Texas between Van and Hawkins oil fields, the well was drilled to 11,940 ft. and plugged back to 9,400 ft. It produced at the rate of 16 bbls. per hour of 41-gravity crude oil through a ⅜ inch choke. B-A owns 6,300 acres of leases in the area.

ROSEDON, BERMUDA

ROSEDON, one of Bermuda's most beautiful guest houses, is located on Pitt's Bay Road — outstanding among the finest residential districts in the Island, within a few minutes walk of Hamilton. Each bedroom has its own modern bathroom with additional glassed-in shower and ample closet space.
Rates include a full breakfast served in rooms at no additional charge.
Mr. Geoffrey Kitson, Manager
ROSEDON, Pitt's Bay Road
PEMBROKE, Bermuda
Cables: Rosedon, Bermuda

Scarrington Cottage Colony

. . . Overlooking the beautiful Great Sound and Hamilton — The Capital City. Conveniently located in an exclusive residential district of Paget Parish.
Five acre estate with Individual Cottage Units for two, three or four persons; fully equipped with Kitchenettes, private baths . . . Bermuda or Modified American Plans.
Convenient to Bermuda's finest South Shore beaches.
Contact your Travel Agent for full particulars.

THE WINDSOR

- In the heart of Hamilton, Bermuda, there is a truly handsome, small resort Hotel.
- Convenient to shops and points of interest.
- THE WINDSOR is an oasis of charm and relaxation . . . There are tropical gardens, handing cool and green; delightful, intimate spots for cocktails, dining and dancing.
- Service and accommodations are designed to please the most discriminating.
- Privileges of nearby Golf, Beach and Tennis Clubs, are extended to all guests. Because it is easily accessible to all parts of the Island, THE WINDSOR makes a perfect base for a Bermuda vacation or honeymoon.

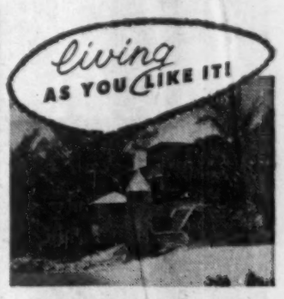
A. E. (Bill) Tumbridge, owner-manager.
William P. Wolfe Organization
12 Richmond East,
TORONTO, Ontario. EMpire 3-2619
*** For further details consult your Travel Agent.

BERMUDA COTTAGES

1, 2 or 3-bedroom housekeeping cottages in choice locations. Beautifully furnished, all have fireplaces, radio, efficient stove, refrigerator and telephone. Beach & Club privileges. Rates as low as $185/month, including all utilities. Nov. thru Mar. Other months daily rates apply. For information write:
Bermuda Cottages Paget, Bermuda

SHERWOOD MANOR HOTEL
ON THE GREAT SOUND
PEMBROKE — BERMUDA

- Located in the Heart of Fairylands, one of the most exclusive and beautiful sections of Bermuda.
- Rooms are large and airy, each with Private Bath.
- Private bathing beach directly in front of hotel.
- Bar and cocktail lounge.
- Bicycles, motorbikes, taxis and cabin cruisers.
- Drive Yourself Outboard Boats.
- Tennis and golf nearby.
- Fishing parties arranged.
- Sightseeing tours by taxi, carriage or boat.
- Dancing on our outdoor terrace overlooking the water to our famous calypso orchestra.
- SEE YOUR TRAVEL AGENT.
- For rates and reservations consult your TRAVEL AGENT OR Write or Cable Syd Sherwood, owner-manager.



at Cambridge Beaches

SOMERSET, BERMUDA

Your own private beach at this charming cottage colony.
Wonderful meals on terrace overlooking Mangrove Bay . . . tea, cocktails, dancing in congenial company at the "Mixing Bowl."
Superb swimming, fishing, sailing and water skiing . . . golf, tennis nearby.

For color booklet, reservations!
SEE YOUR TRAVEL AGENT
Leonard P. Brickett, Representative
Hotel Roosevelt, New York 17, N. Y.
MUrray Hill 9-3967

Bermuda's Own Pink Beach
COTTAGE COLONY

- DISTINCTIVE clientele, cuisine, decor . . . 14 luxurious cottages on the colorful South Shore. Private Beach, tennis . . . fishing at your door; famous Mid-Ocean Club for golf nearby. New air-conditioned Clubhouse, lounge, cocktail bar.

Direct flights from Toronto and Montreal
Color booklet and reservations from YOUR TRAVEL AGENT or
LEONARD P. BRICKETT
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THE Castle Harbour
HOTEL . . . GOLF, BEACH and YACHT CLUB

BERMUDA'S LARGEST SEASIDE RESORT

The Castle Harbour offers *every* facility for *every* activity that Bermuda affords . . . ¼-mile private beach *and* a fleet of sailing dinghies! A traditionally fine cuisine and service. Each room with bath and *fresh* running water. *Howard F. Hohl, Gen. Mgr.*

For folders and information, see your Travel Agent or
Bermuda Hotels Inc. William P. Wolfe, Rep.
12 Richmond St. East, Toronto, P. Q. — Empire 3-2619
Also New York, Boston, Phila., Chicago, Miami, Cleveland

FARAWAY COTTAGE COLONY

- FARAWAY, overlooking a broad sweep of the blue Atlantic, is Bermuda's newest cottage colony. Its lovely setting on the South Shore of Warwick makes it one of the few places in the Coral Islands where guests have their own private beach. The soft, pink sands of FARAWAY's beach are only a three-minute walk from the cottages.
- Main house and 11 cottages Fresh water in every room for drinking and bathing.
- Guests of FARAWAY enjoy its informal atmosphere, good food and comfortable accommodations. Every cottage and room has its own entrance and bath; furnishings are modern, with innerspring mattresses, radios and telephones. Meals are served in the dining hall built near the main house and cottages. FARAWAY offers either the bed-and-breakfast plan or rooms with two or three daily meals. FARAWAY is not far from four hotels and dancing, entertainment, a golf course and tennis courts. Sightseeing is arranged by the management.
- Many Canadians come back to FARAWAY year after year.
- See your Travel Agent or write Peter Petty owner-manager, Warwick, Bermuda.

WHITE SANDS & COTTAGES ON SOUTH SHORE PAGET-BERMUDA

A charming guest house on the beach with delux accommodation, excellent cuisine, centrally located. Sun-bathing and Swimming a delight.
For reservations write
KAY & HORACE BROWNE

GLENCOE on the water's edge

Glencoe, convenient to Hamilton with the ferry boat services within a few minutes of the house, accommodates twenty-five guests. It is pleasantly informal and all rooms are light, well ventilated and equipped with baths and fresh-water showers. Single rooms, double rooms and suites are available. Room and breakfast plan.
FOR RESERVATIONS, see your Travel Agent or Write: Charles Parker, Owner and manager, Glencoe, Bermuda, Cable address, "Glencoe Bermuda".

4 DISTINGUISHED BERMUDA RESORTS

Each with an individual character, providing accommodations and services that appeal to the Canadian visitor to Bermuda.

HORIZONS

A truly lovely old mansion on beautifully landscaped acreage with a commanding vista of the South Shore.

NEWSTEAD

On Hamilton Harbour, Newstead is especially favoured for its commodious quarters and tasteful furnishings.

WATERLOO HOUSE

In a terraced garden near the Royal Bermuda Yacht Club, this century-old residence has a loyal following among visitors to the island.

MOUNT PLEASANT

. . . 15 Acre estate — Old World Charm with Luxurious modern surroundings.

SEE YOUR TRAVEL AGENT
or call our Toronto Office
ROBERT F. WARNER, INC.
80 Richmond Street West
EMpire 3-2693

Buena Vista GUEST HOUSE

on Paget Shore overlooking Hamilton Harbour
Courteous Service at Moderate Rates

Guests may enjoy swimming in the still waters of Hamilton Harbour from the beach directly below Buena Vista. Here the tiniest toddler may paddle in complete safety. Sailboating, either during the day or by moonlight, motor boat cruises and fishing parties are arranged by the management as a service to guests. A secluded garden at the rear of the house completely bordered by flowering hibiscus offers a quiet retreat for reading and sunbathing.

For information apply to
Mrs. Clyde Leseur, Box 289, Hamilton, Bermuda.
Cables: Buenavista, Bermuda. OR CONSULT YOUR TRAVEL AGENT

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EGYPT and the HOLY LAND
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the LARGEST ship cruising the Mediterranean
60-day Cruise
Feb. 19, 1957
from New York

The palatial Nieuw Amsterdam is your "floating resort hotel" as you anchor at fascinating port after port along the shores of the blue Mediterranean.

In between, you'll relax on deck and drink in the warm Mediterranean sun . . . you'll be feted with the Nieuw Amsterdam's world-famous menus and sumptuous buffets . . . you'll spend hours in the luxurious lounges and salons, gay cafes and night clubs.

This is the way to cruise the Mediterranean! The friendly and efficient Nieuw Amsterdam staff will see to it that this is one of the most memorable experiences of your lifetime!

Cruise membership limited to half capacity so that all may enjoy rooms with private bath or shower. Rates begin at $1590 including return passage to New York. Stopovers in Europe may be arranged. Shore excursions by American Express Company.

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Kotor, Dubrovnik, Yugoslavia
Trieste (for Venice)
Naples; French Riviera
Barcelona; Palma, Majorca
Malaga, Spain; Casablanca
Lisbon; Southampton
The Netherlands

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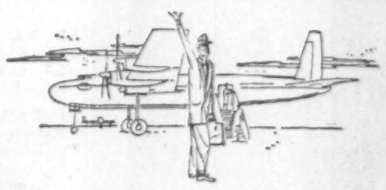

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- Each room has been designed for comfort and privacy. Every room has a colorful name — such as Hibiscus, Sea Fan and Passion Flower Bridal Suite — and is decorated to convey its theme. The rooms appear as individual cottages, although actually they are built on either side of a long rambling corridor.
- Superb Accommodations
- The Finest Cuisine
- Luxurious Cocktail Lounge
- Dancing Nightly
- Our own beach club
- Tennis, Golf, Sailing nearby.

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In the new Aug. 4

MACLEAN'S

BIDNEY KATZ REPORTS:

One Canadian house in every eight IS FALLING APART

Bad planning and neglect are breeding slums, disease and distress in many Canadian cities. Katz tells what YOU can do about this urgent problem.

The private lives of BYNG WHITTEKER

BY BARBARA MOON

What is the lovable "Mr. Byng" like when he's off the air? This revealing story will amuse and surprise you.

Can science beat the VIRUS DISEASES?

By JANICE TYRWHITT

Don't miss this up-to-date report on the never-ending struggle to beat polio, cancer, and the common cold.

LT.-GEN. GUY SIMONDS claims

We're wasting millions on an obsolete air force!

Read it in the new exciting

MACLEAN'S

Canada's National Magazine • A Maclean-Hunter publication

Bruce Hutchison writes about:

Light Summer Reading

By BRUCE HUTCHISON

All the public documents arriving at my summer camp are immediately filed away for future reference. Not many offices in town can boast of a filing system as efficient as mine, though its equipment is quite simple and inexpensive.

A stuffed owl with one yellow glass eye perches on the mantel shelf astride the records of the Dominion Bureau of Statistics, the Hansard of the House of Commons is weighted down by a valuable walrus tusk (as a special mark of respect for parliamentary institutions) and miscellaneous newspaper clippings are filed in a corner beneath a broken paddle and some worn-out fishing tackle.

With these commodious arrangements a man can quickly find any information he requires on a calm day. A storm down the lake, I must admit, is likely to turn the filing system into some confusion since the owl, a tired old bird, cannot stand up to much wind.

Exhibits Present Odd Caricature Of Human Affairs

This morning I undertook my annual housecleaning and came across half a dozen significant exhibits, filed in the fishing tackle and paddle department. At first sight they seemed to be disconnected and irrelevant, but on second thoughts I saw that they presented an odd caricature of human affairs at the peak of their midsummer madness, a collective portrait of the general cussedness of things. That is the advantage of a modern filing system.

The first exhibit, somewhat punctured by fishing hooks, is the public recantation of Howard Fast, the most eloquent propagandist of Communism in the United States.

Writing in The Daily Worker, he confesses that he has been totally misled by the Russian Government and its "record of barbarism and paranoic blood-lust that will be a lasting and shameful memory to civilized man." After this promising introduction I read on, expecting Mr. Fast to repudiate Communism, the source of these evils. I had underestimated the intellectual honesty of the loyal Communist.

Mr. Fast sees no evil in the system, only in the men who happen to manage it. Therefore, the people of North America are asked to embrace Communism because it has always been monstrous everywhere else and hence will be safe in the hands of good men like Mr. Fast.

More than that, we are asked to accept the word of such prophets for the sound reason that they have always been wrong about everything in the past and thus can be fully trusted to be right about everything in the future. By this time, unfortunately, the new Communist line was so tangled in my old fishing line that I placed Mr. Fast's manifesto under the paddle for more leisurely study.

Khrushchev Is Honored Under Walrus Tusk

The walrus tusk file rewarded me with the text of Mr. Khrushchev's famous valedictory to Stalin. It has been widely misunderstood. Mr. Fast is not really quarreling with the Russian Government as everybody supposed. For Mr. Khrushchev agrees with Mr. Fast that there is no flaw in the Communist theory but merely in the Communists. If the system produces 30 years of horror (which no one noticed at the time) that is pure coincidence and won't happen again. No reasonable man can question that logic. I gave Mr. Khrushchev a place of honor under my best trout flies.

Former U. S. Envoy Would Have Been Outraged, Annoyed

Greatly reassured, I read the reviews of a book on the late Pierrepont Moffat, whom I knew as American ambassador to Canada during the early war years and as one of the finest gentlemen I ever met.

How, I wondered, would Mr. Moffat feel about a biography containing his top-secret reports to the State Department and casually breaking the confidences of many living Canadians? He would feel outraged, humiliated and betrayed.

Here are his luncheon conversations with such Ottawa civil servants as Messrs. Norman Robertson, Jim Coyne, Jack Pickersgill and Escott Reid still occupying important official positions. They are thereby exposed to political controversy in the most delicate matters and powerless to defend themselves (apart from Mr. Pickersgill, now a politician) as Mr. Moffat, being dead, is powerless to recall papers never intended for publication while his friends are alive. Both he and they have been betrayed by the State Department to provide light summer reading for the public.

How, one may ask, can foreign diplomats do business in candor with a State Department which, at any moment, may publish their most private communications? How, indeed, does American government function so well when, as I discovered deep in my filing system, the secret documents of the cabinet have lately been turned over to a favored newspaper correspondent, though withheld from the Congress?

As James Reston writes in The New York Times, this remarkable affair represents a rare scientific discovery. It proves, he says, that government is the only vessel that leaks from the top.

'President of China' Is Stretching Things Too Far

Next, I came across a recent letter from Mr. Eisenhower to Chiang Kai-shek, "President of the Republic of China." It seemed to me that this title, attached to an exiled, phantom government in Formosa, stretched summer fiction rather too far. And when Mr. Eisenhower went on to assure Mr. Chiang of "our steadfastness in continuing to support the Republic of China" though it has long ceased to exist, its vestigial remains strictly isolated on a distant island by American policy, I consigned this item to the stuffed owl department where it belonged.

Home-Owners To Get B. C. 'Pie-In-Sky'

From Our Own Correspondent

VICTORIA — British Columbia home-owners are going to reap some Social Credit "pie-in-the-sky" next year. They will get a rebate of $28 out of the government treasury.

Premier Bennett, as Minister of Finance, conceived this novel plan. He doesn't call this pie-in-the-sky. He says: "This is a Social Credit dividend. It comes from increased revenue from our natural resources, and not from general taxation."

The total cost, the first year, will be about $8 million. It will apply to all home-owners, whether they pay taxes of $50 or $1,000 a year.

"Our idea is to encourage people to own their own homes," says the Premier.

People who pay rent won't receive any such benefit.

Social Credit's political enemies insist that this is just a big bribe being offered to the electorate in view of a general election expected early next summer.

Legislation for the $28-rebate, the Premier says, will be considered at the next session of the Legislature, opening in January.

"This is not for one year only, but will go on year after year," the Premier says.

Prudential Sales Districts Now In Four Regions

Prudential Life Insurance Co. of America has announced changes in the administration of its Canadian operations. Most important of these is the dividing up of the company's 36 sales districts into four regions headed by an agency director.

The new grouping is expected to be beneficial to Prudential's over-all operations and will result in better service to its 1.3 million policyholders in this country, states Robert M. Green, vice-president in charge of Canadian operations.

Named as director of agencies in each of the four divisions are: Arthur A. Johnstone, C.L.U.; William T. Green, C.L.U.; J. Gerard Gauthier; Edwin J. Henwood, C.L.U. Directors will be located in Canadian head office at Toronto.

B-A Oil Net Rises 2.7%

British American Oil Co. had net earnings of $10,072,000 in the first six months of 1956. This compared with $9,805,000 for the same period of last year.

Improvement has occurred principally in earnings from manufacturing and [illegible] tions arising mainly from a [illegible] of refined products processed and sold. Higher production earnings reflecting increased crude oil production in Canada and U. S. which rose 7% to 5,417,000 barrels, were offset by increased exploration expenditures and other capital write-offs.

The company has made several promising and important oil discoveries in its exploration operations for the year to date; the most significant of these are in Oklahoma, Texas and Montana.

Owing to the seasonal nature of the company's business, earnings reported for the first half are not necessarily indicative of earnings to be anticipated for remainder of the year. Since the acquisition of **Canadian Gulf Oil Co.** was only completed on June 30, the earnings figure does not reflect operations of Canadian Gulf or any of its subsidiaries.

ANNOUNCEMENT

AVRO AIRCRAFT APPOINTMENTS

JOSEPH TURNER

whose appointment as Vice-President, Finance, Avro Aircraft Limited, is announced by Fred T. Smye, President and General Manager. At the same time, Mr. Smye announced the appointment of Mr. P. H. Williams as Comptroller and Treasurer, and Mr. N. E. Kindell as Secretary.

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"...a good cigar helps in a lot of ways..."

It helps you relax, get more enjoyment from your leisure hours . . . or smooth the course of a business meeting. I find House of Lords cigars do all these things particularly well . . . with their finer flavour, aroma and quality.

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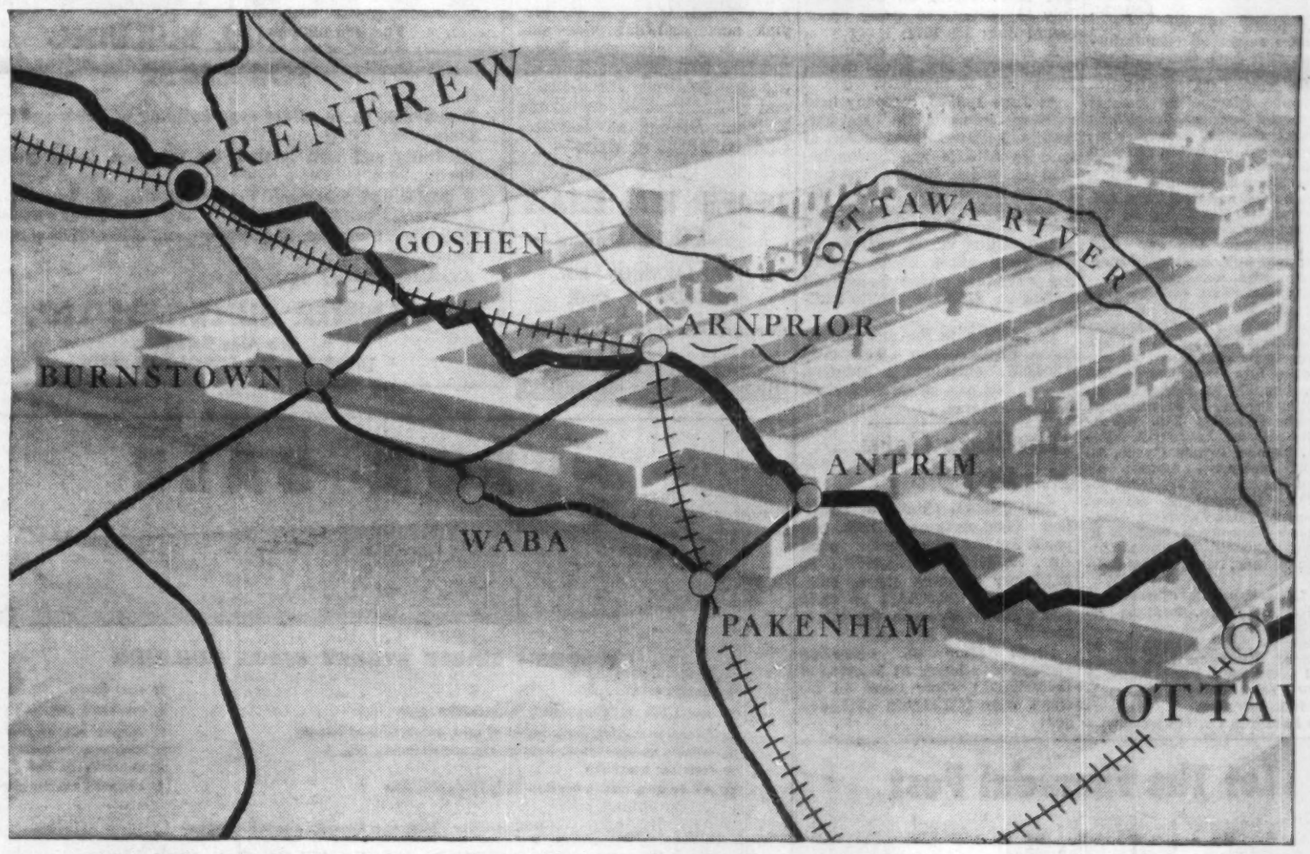
CIGARS
GOLD STRIPE • CORONA DE LUXE • PETIT CORONAS • LILIES • QUEENS • PANETELAS



How come Renfrew, Ontario, is the home of one of Canada's most important metal working plants?

Some people just call it the breaks . . . a pre-war machinery company gets into wartime production, changes hands, and develops into a much enlarged and modernized post-war supplier of defence production needs, particularly aircraft engine component parts.

We say it's more than that . . . it has quite a bit to do with the patience and skill of the Renfrew district worker . . . with an executive group that is especially encouraged to think in terms of tomorrow's needs . . . and ever, with such trivial things as the fact that a lot of Renfrew Aircraft people can go home for lunch.

You spot this relaxed confident way of working throughout the plant. "Here's an idea we developed which replaces six separate operations with one," the foreman will tell you. And over there is a lab technician with a new idea on riveting based on microscopic examinations he's been making of regular samples of plant production.

These are the people who, as a team, have become one of the largest producers of combustion equipment for aircraft gas turbine engines as manufacturers of the "hot end" of the famed Orenda engine and Rolls-Royce Nene. The Company is also engaged in the design and manufacture of fueling equipment for airport use, as well as a number of industrial and government sub-contracts in the field of machine tool, sheet metal and special development products.

Renfrew
AIRCRAFT & ENGINEERING COMPANY LTD.
Montreal Office, 660 St. Catherine Street West

ANNOUNCING

Important appointments in Canadian Industry, Finance, Business and Government.

Associated Screen News Ltd. (Montreal) — Peter Alford, film editor, editing department; Arthur Carrier and Kevin Clark, assistant film editors.

American-Standard Products (Canada) Ltd. (Toronto) — Albert O'B. Andrews, vice-pres. and director; Thomas B. Cooper, vice-pres., secretary and treasurer; Arthur R. MacCallum, vice-pres. and comptroller; Alex Pirrie, vice-pres., manufacturing; R. Jarvie, sales manager, plumbing and heating products; R. N. Mathews, sales manager, Kewanee-Ross products; R. R. Noyes, sales manager, Canadian Sirocco products; H. T. Williams, assistant sales manager, plumbing and heating products.

Avro Aircraft Ltd. (Toronto) — Fred T. Smye, president, retaining duties of general manager; Joseph Turner, vice-pres., finance; P. H. Williams, comptroller and treasurer; N. E. Kindell, secretary.

Brading Breweries (Quebec) Ltd. (Montreal) — John H. Blandford, advertising manager.

British American Oil Co. (Toronto) —M. T. Stevens, manager, Calgary refinery; W. E. Lundie, manager, Clarkson, Ont., refinery; B. A. Barnhill, manager, Moose Jaw refinery; C. W. Coote, manager, Edmonton refinery; D. G. Berry, assistant manager, Clarkson refinery; R. C. Beal, assistant manager, Montreal east refinery; R. M. Donald, assistant manager, Edmonton refinery; H. A. Hornfelt, assistant manager, Calgary refinery.

Canada Life Assurance Co. (Toronto) — Jacques Roy and R. M. Watson, assistant managers, Quebec branch, Montreal.

Canadian Acceptance Corp. Ltd. (Toronto) — appointments to industrial financing division; H. N. Crawford, regional supervisor, British Columbia; D. R. Donaldson, Edmonton branch manager; J. M. Carriere, regional supervisor, Montreal; J. R. Breau, Montreal industrial branch manager; M. A. St. Pierre, Montreal field representative.

Canadian Credit Men's Trust Association Ltd. (Toronto) — J. Langley, **Drummond McCall & Co.**, Montreal, to be president and a director; T. O. A. West, **Empire Brass Mfg. Co.**, Calgary, vice-pres. and director; M. W. Dalton, **Purity Flour Ltd.**, Saint John, N.B.; G. J. McLean, **Northern Electric Co.**, Winnipeg; L. F. Cutts, **Campbell, Wilson & Millar Ltd.**, Saskatoon; Adam Taylor, **Du Pont Co. of Canada Ltd.**, Vancouver; M. W. Osborne, **Canadian General Electric Co.**, Toronto; J. Game, **General Films Ltd.**, Regina; G. C. Montgomery, **Taylor, Pearson & Carson (Canada) Ltd.**, Edmonton, to be directors.

Casualty Co. of Canada (Toronto) — Peter S. Gooderham of **Wills, Bickle & Co.**, Toronto, to be a director.

Continental Can Co. of Canada Ltd. (Montreal) — N. C. Darrach, formerly manager of St. Laurent, Que., plant, to be division general manager of manufacturing (metal); J. G. Stevens, manager, Vancouver plant.

Dominion Rubber Co. (Montreal) — C. Ronald Howey, development department manager, Naugatuck chemical division, Elmira, Ont., succeeding C. W. Gates, returned to Naugatuck chemical division, United States Rubber Co.

Dominion Steel and Coal Corp. Ltd. (Montreal) — Daniel Scouler Jr., assistant chief engineer.

Dow Kingsbeer Brewery Ltd. (Montreal) — T. Hugh Buchanan, Ontario sales manager.

Ecole Polytechnique, University of Montreal (Montreal)—Prof. Raymond Boucher, heal of hydraulics section, department of civil engineering, to be chairman civil engineering branch; Jacques M. Decary, formerly in charge of accounting service, to be treasurer.

Electrolux (Canada) Ltd. (Montreal) — Orvar Lindstrom, vice-pres., finance; Arman Gyger, assistant vice-pres., eastern division, headquarters Montreal; Albert L. Cunningham, assistant vice-pres., Pacific division, headquarters Vancouver; William R. Blaney, assistant vice-pres., Atlantic division, headquarters Halifax.

Great Lakes Paper Co. (Toronto) — T. Bruce Fallows, formerly asvice-pres., sales.
sistant to the president, to be

Laminated Structures Ltd. (Montreal) — Arthur J. Petch, formerly Ontario sales manager, to be general sales manager.

James Lovick & Co. (Vancouver)— M. C. Folkard, account manager, Montreal office.

Metropolitan Life Insurance Co. (New York) — James Muir, chairman and president of **Royal Bank of Canada**, Montreal, to be a director.

Odeon Theatres (Canada) Ltd. (Toronto) — Craig Parry Hughes, formerly asistant secretary, to be secretary; H. T. Blumson, treasurer. These appointments follow resignation of C. R. B. Salmon as secretary-treasurer to become executive vice-pres.

Sobeys Stores Ltd. (Stellarton, N.S.) —Lionel A. Forsyth, president, **Dominion Steel and Coal Corp. Ltd.**, Montreal, to be a director; L. Sharp, general manager.

Shell Oil Co. of Canada Ltd. (Toronto) — G. L. Gardiner, formerly manager of Shellburn refinery, Vancouver, to be general assistant to vice-pres.; Dr. G. A. Lorenz, assistant manager at Montreal east refinery, to be manager, Shellburn refinery.

Stowell Screw Co. Ltd. (Montreal) —Arthur T. Barnett, sales manager for Canada; Jack M. Raymond, manager, sales research and planning.

L. C. Tobias Co. Ltd. (Aurora, Ont.) —E. Herbert Coad to be vice-pres. and a director.

Union Carbide Canada Ltd. (Toronto) — F. Perry Wilson, vice-pres., retaining presidency of Bakelite Co., Belleville, Ont.

University of Toronto (Toronto) — W. B. Coutts, partner of **Clarkson, Gordon & Co.**, Calgary, to be associate professor, Institute of Business Administration.

Cdn. Export Gas Issue Offered

MONTREAL (Staff) — A new issue of $1.5 million 5% convertible sinking fund debentures, series A, of **Canadian Export Gas Ltd.** is expected to be offered shortly by **W. C. Pitfield & Co.** at 100 and accrued interest. Dated July 15, 1956, the debentures mature July 15, 1971.

Net proceeds will be used to maintain existing gas and oil holdings in good standing, for further development of present acreage and when favorable terms present themselves to acquire additional acreage by Trans-Canada's proposed pipeline, for continuation of substantial exploration to find new gas and oil reserves. Exploration effort, in part, may be farmed out to others. Funds are also for company's share of advances to **Bluewater Oil and Gas Ltd.** and for general corporate purposes.

The debentures are convertible into 30c par shares up to July 15, 1971, unless previously redeemed, on a sliding scale ranging downward every four years from 69 shares per $500 debenture if converted on or before July 15, 1959, to 40 shares on or before July 15, 1971.

A sinking fund is calculated to retire over 70% of the debentures prior to maturity.

At June 1, 1956, company held varying interests in approximately 1,190,603 gross acres of land in Alberta and Saskatchewan in which its net working interest was 677,218 acres. Company's total net gas reserves were 457.97 billion cubic ft. of which 109.80 billion cu. ft. are proven developed, 172.39 billion cu. ft. are proven undeveloped and 94.78 billion cu. ft. are probable additional.

In addition to the new debentures, capitalization includes 2,300,007 outstanding common shares, 30c par, of an authorized 5,000,000 shares.

Distillers Corp. Profit Lower

MONTREAL (Staff) — **Distillers Corp.-Seagrams Ltd.** net profit for the nine months ended Apr. 30, 1956 was $25,166,316 or $2.87 per common share, compared with $23,869,111 or $2.72 per common share in the corresponding period last year.

Profit after all operating charges was lower at $45,466,316 ($46,969,111) while taxes on income were $20,300,000 ($23,100,000).

Studie Deal Believed Near

Reports from the U.S. at midweek said the deal was almost complete for **Curtiss-Wright Corp.** to take over management of **Studebaker-Packard Corp.**

The question for this country: What will it mean to **Studebaker-Packard of Canada**?

Negotiations have continued for some months, with S-P cutting costs and increasing efficiency wherever possible.

It's understood the deal will give the aircraft company control but not immediate ownership of S-P. The latter's financial crisis backgrounds the arrangement.

C-W apparently will lease certain of the auto firm's plants, purchase its defense contract inventories.

With new management and a better financial setup, S-P is expected to find it easier to raise money.

There have been conflicting reports about the 1957 Packard. Production of 56 Packards has been completed. Some reports say the 57s will not be introduced, others say that they will appear, as planned, in November.

S-P's Canadian operation centres on its Hamilton plant, which produces Studebaker cars.

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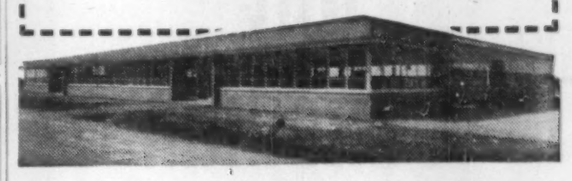

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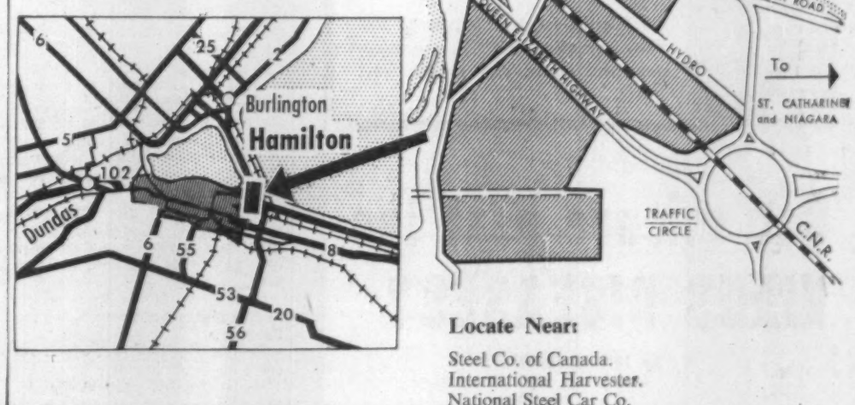

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Internat. Pete Earns $1.27 In Six Months

International Petroleum Co., Toronto, estimates consolidated net earnings of $18.5 million (U.S.) for the six months ended June 30, 1956, a 14.9% increase over $16.1 million for comparable period last year.

Earnings are estimated at $1.27 per share ($1.11 in earlier period). Company derived earnings mainly from operations in Venezuela, Peru and Colombia, with Venezuelan crude oil exports providing major proportion.

Capital and exploration expenditures amounted to about $23.3 million ($17.1 million) and average gross crude oil production was up 8% at 118,700 bbl. daily.

Davega Rejects Mages Offer

Mages Sporting Goods Co., Chicago, is not proceeding with its offer to purchase **Davega Stores Corp.,** New York, for $945,000, The Financial Post understands. Davega's directors met last week, but could not approve the transaction.

Mages offered to buy 135,000 of the 265,000 outstanding shares for $7 each.

Davega operates 30 stores, mainly in New York and New Jersey.

Mages operates nine stores, mainly in the Chicago area, and plans to open three more this year.

Mages raised money for expansion through a public offering in Canada in mid-1955.

Tax Move Aids U.S. Firms Sell Subsidiary Stock Here

OTTAWA (Staff)—The Canadian Government has now formally approved a revised tax treaty with the United States which extends the low 5% rate of withholding tax to Canadian subsidiaries of U.S. companies even if they are not 95% owned by the parent company.

The required proportion of ownership by the parent company has been reduced very substantially; and it is not expected to be much over 50% in the revised treaty.

This will remove any possible tax penalty upon the sale of a considerable bloc of shares in Canada by subsidiaries of U.S. firms.

It will not, of itself, provide an inducement for offering shares in Canada. Reasons having nothing to do with taxes may still prompt U.S. firms to maintain complete control of their Canadian subsidiaries. But at least, Canada will have removed the charge that this country's tax laws prevent the offering of shares in Canada.

The new provisions will apply equally to U.S. taxation of Canadian-owned subsidiaries in the United States. It will make it possible for such firms as Canadian Breweries with wholly owned U.S. subsidiaries to offer shares in the U.S. subsidiaries on the U.S. markets. But it will not oblige them, nor offer them any specific inducement, to do so.

Early word was expected this week that the U.S. administration was ready to sign the revised treaty. The Canadian Government has been pushing for quick acceptance so that it can bring the revision before the present session of Parliament for ratification.

This will show that Finance Minister Harris has wasted no time fulfilling the undertaking in his budget speech. It's hoped that it might also help to encourage prompt action in the U.S. Senate. But it will probably be next spring or summer before the new treaty can come into effect.

It requires ratification by a two-thirds vote of the U.S. Senate. No special opposition is expected, but the new tax treaty will have to take its turn among the business awaiting the new senate next year after the November elections.

The Post understands that the revised treaty contains other changes besides the provision about wholly owned subsidiaries. They are mostly changes desired by the United States, and it is possible that some of them may not be so welcome to Canadians.

The significance of the present revision, in the eyes of Canadian authorities, is that Canada no longer feels it necessary to hold out the earlier assurances to U.S. companies that they can keep control of Canadian subsidiaries. Canada is now more concerned to clear the way for increased participation in their ownership.

The present Canadian taxation of dividends paid to U.S. shareholders is this:

—The payment of interest on dividends to either individual or corporate owners in the U.S. is subject to a 15% withholding tax —payable when the dividends are credited to the shareholders, not when they are actually transferred. (The Canadian company also, of course, pays Canadian corporation tax in the ordinary way).

—But if the Canadian subsidiary company is 95% owned by a parent U.S. corporation, the withholding tax is only 5%, provided the Canadian company doesn't get more than a quarter of its income from interest and dividends (unless its principal business is making loans).

—Special provisions apply to "non-resident-owned investment corporations." If they are 95% owned abroad they are subject only to a flat 15% tax on their income; and then there is no tax on the payment of dividends to non-resident shareholders.

Thorncliffe Park Head Joins Venezuelan Firm

C. B. Antill, general manager of Thorncliffe Parfi Ltd., the $100 million real estate development in Leaside, Ont., on the site of the former racetrack, is taking up a new post in South America.

Effective Aug. 15 he is resigning from the Metro Toronto project of which he has been in charge since its inception, and will become a principal in the firm of **Prados Del Este,** investors and developers of construction projects in South America with headquarters in Caracas, Venezuela.

CANADIAN BREWERIES LTD. converted an additional 685 preferred shares into same number of common shares. Now 404,865 preferred shares and 3,053,739 common shares outstanding.

INTERNATIONAL UTILITIES CORP. converted 1,050 preferred shares into same number of common. Now 119,200 preferred and 1,096,306 common outstanding.

U.S. Cotton Export Splurge Shapes Hottest Price War

Special Correspondence

WASHINGTON, D.C. — What may be the greatest splurge of U. S. cotton exports in history is now going out of U. S. ports. By ocean freighter, train, truck and river boat, more than three million bales of cotton are either heading for the ports or overseas from the ports. Since mid-week tens of thousands of bales of cut-rate cotton have been shipped abroad.

These cotton exports may set off a vast chain reaction around the world including the most anguished cries of "dumping" ever heard; one of the hottest international price wars on record; and a couple of violent zigs and zags in the cold war. Aug. 1 was the opening date of the new season and the beginning of a new U. S. cotton export policy. Ottawa has already told Washington that Canadian anti-dumping laws will be applied to U. S. exports.

A new U. S. threat is to impose restrictions on cotton textile imports.

The subsidy for cotton textile exports by U. S. will be based on a rate of 6.58c a pound for raw cotton. This subsidy applies to the export of cotton textiles, cotton yarns and spinnable waste.

Retaliation Threat

Cotton exporting nations like Mexico and Egypt already have threatened retaliation against what they term "outrageous dumping." An official Mexican Government banking publication Comiercio Exterior warns that Mexico will open a campaign to meet the U. S. head on in cotton exports. "Mexico has still many cards to play," it says, "no doubt the struggle will be close but Mexico has no reason to back down."

In a recent speech Prime Minister Anthony Eden also voiced great concern over "uncertainty" in U. S. cotton policies.

So far as the cold war is concerned the very countries Uncle Sam is going to hurt by the cotton program are the same ones he is wooing in the battle against Communism. If cotton textile imports are restricted, Japan will be the major sufferer. It would be hard to rationalize this action with the ardent State Department wooing of Japan in recent years.

The raw cotton export subsidies will seriously disturb Egypt's economic balance.

It would seem to suggest once again that the U. S. Department of Agriculture, in its ardent desire to get rid of the surplus cotton, is operating on a policy dead set opposed to State Department policies. It also would seem to indicate that in Washington in an election year and in the Capitol's August heat and humidity, it's awfully hard to keep the right hand informed of what the left hand is doing.

Predict Export Boosts Here From IFC World Investments

OTTAWA (Staff) — Formation of the International Finance Corp. last week, offshoot of the World Bank, is expected to bring Canada long-range benefit — bigger export markets brought about by IFC-spurred investment in world regions at present underdeveloped.

No short-range benefit is seen. Dividends could be paid but probably won't be. The logical move for IFC will be to put any surplus into reserve.

Facts and figures on the new IFC:

— Authorized capital: $100 million.

— Initial capital: $78.4 million.

— Canada's share: $3.6 million. This was voted in supplementary estimates last year, lapsed, and is included in the supplementary estimates to be passed before Parliament concludes the present session. The amount is proportionate to our share in the World Bank, and about 1/10th the U. S.'s.

— Number of member countries so far: 31. Membership is open to World Bank member countries.

— Who is eligible for loans? Private industry in a "less developed" member country.

IFC will operate with, not instead, of private capital. It will concern itself with worthwhile private enterprise projects unable to attract "acceptable capital on reasonable terms."

By investing in a project, it hopes private capital will come in too. In short, it hopes to stimulate domestic and international private investment.

Little U. S. Capital

Generally speaking, little private U.S. capital — the U.S. is the largest source of private capital — has ventured postwar into world projects except those concerned with oil or those in Canada.

It is thought private capital will follow the IFC lead particularly since IFC, unlike the World Bank, will not require its loan to be guaranteed by the government of the country in which the private project is located.

Further, IFC will not assume responsibility for managing enterprises in which it invests, or invest in capital stock. It will invest usually in industry and only when it is satisfied private interests concerned are contributing a full share of the needed capital.

IFC will try to revolve its funds by selling its stake in a project to private investors.

It will be authorized to raise additional funds by selling its own obligations in the market. But this isn't likely for some years.

Extensive use will be made of World Bank experience, staff and research facilities. Many bank staff hold similar IFC positions.

President is Robert L. Garner, vice-president from 1947 until now of the World Bank. He was financial vice-president of **General Foods Corp.** and formerly associated with **Guaranty Trust Co.** of New York.

Vice-president is J. G. Beevor, former managing director of the **Commonwealth Development Finance Co.** of London.

Assistant to the president is Richard H. Demuth. He will continue to be World Bank's technical assistance and liaison staff director. He has been with the bank for 10 years.

Foreign Exchange Rates

Noon Value in Canada
Week Ended July 27, 1956

	U.S.$	U.K.£
Mon.	98 7/32	2.74 7/16
Tue.	98 6/32	2.74 5/16
Wed.	98 10/32	2.74 5/16
Thu.	98 8/32	2.74
Fri.	98 7/32	2.73 11/16
Ave.	98 38/160	2.74 3/4

U. S. rate reported by Bank of Canada.

U. K. bid rate reported by Toronto-Dominion Bank.

Record of Financing

Sales by Municipalities, Provincial and Dominion Governments. Offerings of Corporations and Securities

MUNICIPAL

School Commission for Mun. Rouyn, P.Q.—4% and 4½% debentures, due Aug. 1, 1957-66-76, $150,000. Issued July 12, 1956. Sold at $97.57 to J. E. Laflamme, Ltd., La Corporation de Prets de Quebec, Garneau, Boulanger Ltd. and Grenier, Ruel & Co. Inc.

Village of Richmond Hill, Ont.—5% debentures, due Aug. 1, 1957-76, $89,233. Issued July 16, 1956. Sold at $98.25 to Bell, Gouinlock & Co. Ltd.

CORPORATE

Inland Cement Co. Ltd.—4½% convertible sinking fund debentures, series A, to mature July 15, 1976, $6,000,000. Dated July 15, 1956. Offered at $100 and accrued interest by W. C. Pitfield & Co., Ltd., McLeod, Young, Weir & Co. Ltd., Nesbitt, Thomson & Co. Ltd., J. R. Timmins & Co., James Richardson & Sons, Sydie, Sutherland, Driscoll, Ltd., Tanner & Co. Ltd., Ross, Knowles & Co. Ltd., Rene-T. Leclerc, Incorp. and Houston, Willoughby & Co. Ltd.

Lafarge Cement of North America Ltd.—5½% first mortgage sinking fund bonds, series A, to mature July 15, 1976, $3,600,000. Dated July 15, 1956. Offered at $100 and accrued interest by Dominion Securities Corp. Ltd., Tanner & Co. Ltd. and Pemberton Securities Ltd.

Lafarge Cement of North America Ltd.—5¾% sinking fund debentures, to mature July 15, 1976, $3,000,000. Dated July 15, 1956. Offered at $99 and accrued interest by Dominion Securities Corp. Ltd., Tanner & Co. Ltd. and Pemberton Securities Ltd.

PREFERRED

Lafarge Cement of North America Ltd.—350,000 ($3,500,000) class A noncumulative participating dividend redeemable shares, par value $10 per share (accompanied by common share purchase warrants). Offered at $10 per share by Dominion Securities Corp. Ltd., Tanner & Co. Ltd. and Pemberton Securities Ltd.

Municipal Bonds

July 31, 1956.

	Coup. %	Matur.	Bid $	Ask $	Yld. $
Calgary	3¼	'89	90½	92½	4.26
Edmonton	3½	'89	90½	92½	4.24
Halifax	3½	'66	91¼	93¼	4.35
Hamilton	3	'67	88	90	4.15
Montreal	3	'70	83⅝	85⅝	4.35
Moose Jaw	3½	'80	95	96½	4.38
Ottawa	3¼	'68	90¼	92¼	4.10
Regina	3	'64	89⅛	91⅛	4.20
St. John, N.B.	3½	'65	91	93	4.45
Toronto	3	'68	87	89	4.15
Vancouver	3¾	'69	92	94	4.37
Victoria	3¾	'68	91½	93½	4.44
Windsor	3¾	'75	75½	77½	4.50
Windsor	3½	'75	85	87	4.51
Windsor	3½	'75	72¼	74¼	4.50
Winnipeg	3	'69	86	88	4.19

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Required by Ontario Office of The Canadian Chamber of Commerce. This position offers a good future; pension plan and other benefits. The man we are looking for has a car; is willing to travel extensively; has a good business and educational background; can meet business executives; has initiative and is energetic. Submit applications by mail, to

Mr. T. H. Hamill, 21 Dundas Square, Toronto.

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One of Canada's largest and most progressive industrial firms has two interesting opportunities for career accountants. The fact that one of these openings is a prestige position whereas the second is at a junior level invites applications from qualified men in the field as well as aggressive young accounting graduates.

Successful applicants will be well paid and will enjoy an Employee Benefits Program second to none. Each of these men will be expected to demonstrate administrative skill as well as theoretical knowledge.

Please write summarily of your qualifications to

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All applications will be opened in the office of the administrative officer and will be treated in strictest confidence.

MARITIMES AND NEWFOUNDLAND

Nationally known manufacturer of drapery hardware, etc. seeks commission salesmen who regularly travel the above areas selling draperies and/or allied items. Please reply giving complete details as to experience, territories, commission requirements.

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We need a man who is well trained in the soft drink business to take over complete charge of a well equipped plant. One who can do both inside and outside operations. He will be required to invest a nominal amount for which he will receive 25% of the stock at once with an option to buy the balance later. For a well trained hustler this has splendid future. Present owners are not in the business. Unless you are well trained and can take over please do not reply

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Please Quote Competition 56-427.

MANAGER OF OPERATIONS

Position available for University graduate in mining engineering or ceramic engineering, preferably citizen of Canada, for Ontario and Quebec non-metallic mining operations of division of U. S. corporation. Duties and responsibilities will include planning and administration, public and labor relations, study and recommendation of new mineral ventures for the corporation, and acting as the corporation's representative on province matters. Prefer man age 35-45 who has experience as assistant manager in large operations or as manager of smaller mine. Please give complete details in reply which will be held confidential.

Box 839, The Financial Post, Toronto.

SALES ENGINEER

Sales Engineer required for sales and promotion of precast lightweight concrete in Toronto area. Reply to Box 846, The Financial Post, Toronto in writing. Please state age, experience, and references.

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Carried complete financial responsibility over 15 years. Both Real Estate and Manufacturing experience. Excellent references. **Toronto, WA. 1-2043.**

TECHNICAL SALES REPRESENTATIVE

An Ontario Firm producing specialty rubbers and plastics requires a technical sales representative for its Toronto Office. Although an Engineering training is preferable and experience in either of the above fields is desirable, the ability to get along with people, and the desire to learn will be given first consideration. Age 25-35. Salary will range from $5000 to $6000 depending on qualifications. Car will be provided. Our employees know about this opening. Please reply in writing giving full particulars to

Box 848, The Financial Post, Toronto.

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Write Box 847, The Financial Post, Toronto, Ont.

THE CORPORATION OF THE TOWNSHIP OF RICHMOND

"TOWN PLANNER"

Applications will be received by the undersigned up to 5.00 P.M., September 21st, 1956, for the position of Town Planner for the Municipality of Richmond, in the greater Vancouver area.

QUALIFICATIONS — Full professional training in Town Planning; preferably a University's Master's Degree or its equivalent, and at least two years of responsible practical experience.

DUTIES—The duties of Town Planner will be to assist in the solution of all problems relating to land and building developments in a rapidly growing municipality; to advise Council and related public agencies on municipal development policy; to organize and supervise the preparation of a comprehensive plan to guide the future growth of the municipality.

SALARY—Salary Range $500.00 to $550.00 per month, depending on qualifications and experience. In addition there will be such benefits as Medical Services, Group Insurance, Superannuation, etc.

All applications are to include pertinent information on education, age, present position and salary, and earliest availability, as well as the names and addresses of two persons who could provide relevant references as to the professional ability of the applicant. The Municipality reserves the right to contact these references in confidence. Applicants are to mark envelope "Applications for the position of Town Planner."

Richmond Municipal Office,
691 No. 3 Road,
Richmond, Vancouver, B.C.

T. M. Youngberg, C.M.C.

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FOR SALE — 25,000 SHARES IN N.B. COPPER POTENTIAL

Private offering by owner 25,000 Shares Common Stock, $1.00 Par Value (Present Issue Price 60c) in LOCH ALVA MINES LTD., a New Brunswick Company holding some 320 claims in the Musquash area of New Brunswick.

Surface grab samples test as high as 12.85% for both copper and lead. Aero Surveys Ltd. of Ottawa have just submitted results of their Electromagnetic surveys on these properties. Over 12 anomalies or potential ore bodies are indicated.

A prominent Canadian Mining Company has been granted option privileges and is now on the property with their own crews doing Geophysical and Geochemical tests with view to ultimate diamond drilling. Within 90 days it is expected that public demand for this presently unlisted stock will become really active.

Seller retaining major block of stock. References on seller supplied if requested. ADDRESS YOUR BID FOR THIS STOCK TO P. O. BOX 301, SAINT JOHN, N.B., CANADA.

CAPITAL AVAILABLE UP TO $500,000.00

by private individual, to enterprising business with growth potential, for expansion purpose or for new venture. Any proposition including outright purchase or partnership will be considered.

Reply in confidence with full particulars to:

Mr. L. D. Small, C.A.
BENJAMIN, SMALL & CO., CHARTERED ACCOUNTANTS
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Complete coverage in Manitoba and Saskatchewan plus very adequate coverage in Alberta and British Columbia.

All replies in confidence.

Box 801, The Financial Post, Toronto.

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American company interested in purchasing outright or merging with well-established Canadian company producing Electric Housewares and Kitchen Appliances, valued between $250,000 and $5,000,000.

All replies held in strict confidence.

Box 843, The Financial Post, Toronto

European Business Connections

Canadian financier-manufacturer, who makes extensive tours of Europe, would be interested in establishing business connections for American and Canadian companies with European counterparts. Authority in financial, investment, insurance, security and mortgage fields. Between August 5th and September 15th will be visiting England, Scotland, Holland, Belgium, West Germany, Italy, Switzerland, France, Spain and Portugal. Address correspondence to Mr. Alexander, American Express Company, 68 Broadway, New York City.

SALE OF COMMERCIAL PREMISES

Sealed tenders for the commercial premises situate at 138-148 Queen St., Kingston, consisting of about 21,000 sq. ft. of land plus buildings, will be received by the undersigned up to 5 o'clock pm, DST, August 31, 1956. Tenders must be accompanied by a certified cheque for 10% of the tender, and the envelope marked "Tender-Queen St. Property." Highest or any tender not necessarily accepted. For further particulars apply to GIBSON, SANDS & FLANIGAN, Solicitors, 74 Brock St., Kingston.

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TEXTILE SCHOOL GRADUATE, Weaving and Designing, 27, six years experience, mainly woollens and worsted, seeks interesting position in designing or related work. Box 845, The Financial Post, Toronto.

What's New

New products, new uses, new ideas, new money-makers. We report them here and invite your contributions. Write to 481 University Ave., Toronto.

Stain Proof Fabric

Printed cotton fabrics, soon to be available in Britain, are said to be stain and water repellent, crease resistant and need a minimum of ironing. When ink, or other stains such as sauce, are spilled on the new material, water poured on immediately afterward removes all trace of the stain and leaves the cloth quite dry to touch. Guaranteed for 20 launderings, the fabrics will be available in a large range of designs and colors. Makers claim it's first time all special properties of the finish have been available in printed cottons.

* * *

Accessory Iron

To make life easier for the housewife when ironing pleats, ruffles, etc., there's a small heated head, across which the material is lightly pulled. Similar in principle to machines used by tailors, it clamps easily to counter or table. A dial regulates heat for various fabrics.

* * *

Self-Leveling Ladder

Ladder with special safety attachment adjusts hydraulically to unievel ground. A valve under the bottom rung is opened and the ladder levels itself. When the valve is closed the ladder is locked in position and ready for use. Another feature is safety grip feet for use on rubber pads for hard, smooth surfaces while protruding spikes can be used on rough ground.

* * *

Clean, Quick Change

Spare ribbon for new model typewriter comes in plastic container and need only be dropped into a special ribbon carrier slot in the machine. Does not have to be threaded into place. No messy fingers after a quick ribbon change.

* * *

Plug-in Any Place

New over-the-floor electrical extension duct for offices, homes and any place where electrical outlet is needed in the middle of the room, is made of rubber. Is stumble-proof and unobtrusive—furniture and office equipment on casters roll over it easily. One end is plugged into a wall outlet and the other end has a two-way receptacle. Available in 4, 5, 6 and 10 foot lengths, special lengths can be custom made. Won't slip on the floor and wiring is safe from moisture.

* * *

Deposit Decreaser

New upper cylinder lubricant additive is said to give superior performance in deposit suppression. Designed for blending with light mineral oils or other suitable solvents the new substance is also effective in diesel fuels for decreasing injector deposits and minimizing smoking. Advantages—freedom from ring and valve sticking, reduction of friction and wear, piston lacquer and gum solvent, decrease in combustion chamber deposits, fuel and oil system corrosion prevention, increased spark plug and exhaust system life claimed by manufacturers.

* * *

Temp-Resistant Coating

New silicone rubber cloth coating compound for ducting can carry air at temperatures as high as 700 deg F and remain flexible at —120 deg. F. Also boasts resistance to flow under clamps, outstanding flame retardance and low swell in gasoline and many other fluids. Of particular interest for applications such as hot air ducts, jet engine starter hose, flexible connectors for metal ducting, and aircraft fire wall seals.

* * *

Lounge Chair Exercisor

Simple steel-and-canvas unit joins ranks of "exercising chairs." Can be adjusted to many different positions for body toning exercises. May be locked in any position from a broad V shape to an inverted V. May also be used as a lounge or sunbathing chair.

* * *

TV Remote Control

New line of TV has remote-control tuner not connected with the set. Eight ounce hand control has four buttons to turn machine off or on or change channels. Tuner need not be aimed at the set.

* * *

New Catalogues

Renold Chains Canada Ltd., Montreal, announces the availability of a new catalogue of Renold American Replacement Chains. Listings include riveted and detachable roller chains, simplex, duplex and triplex, plus spare parts and accessories. Also Cranked Link Chains, The Coventry Mark 5 roller chains, Standard Stock Series wheels, The Coventry Slat Band chains and wheels as well as tools for all sizes of roller chains.

Department of Industries and Labor, Alberta, announces the 1956 edition of the Alberta Trade Index, a comprehensive directory of Alberta manufacturers and Alberta manufactured products.

Surpass Petrochemicals Ltd., Toronto, a new Canadian industry, has published a booklet giving full technical details of the range of current Surpass production—applications, properties and test standards. The products described have many applications across a broad cross-section of industry.

Bank Branches Will Serve RCAF Overseas

Bank of Montreal has opened three new branches in France to serve Royal Canadian Air Force installations there. Branches have been established as follows:

—RCAF Base, No. 1 (F) Wing, Marville (Meuse); under the management of S. B. Lindsay.

—RCAF Base, No. 2 (F) Wing, Grostenquin (Moselle); manager, R. A. Barr.

—RCAF Base, No. 1 Air Division Headquarters, Metz (Moselle); manager, W. J. Read.

In Germany two additional branches will be opened by mid-August.

—RCAF Base, No. 3 (F) Wing, Zweibruken; manager to be D. L. MacIntosh.

—RCAF Base, No. 4 (F) Wing, Baden Soellingen; manager to be E. H. W. Foerster.

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Centrally located, relaxed comfort, charming decor, Modern dining room and lounge.

Ample Parking

REGENCY TOWERS HOTEL

Our Employment Boom Tightens Labor Supply

OTTAWA (Staff)—The nation's annual warm-weather labor shortage has arrived two months ahead of schedule.

Only 2% of the labor force is without jobs and looking for work.

June-end figures just released by the Department of Labor and the Dominion Bureau of Statistics show:

—Most of the more than 100 labor market areas in Canada were in balance or shortage positions at the end of June. This normally doesn't happen until the August-September seasonal peak.

—Unemployment declined sharply, to below the June average of the last five years, almost as low as record June, 1953.

Yearly comparison of numbers of persons without jobs seeking work:

1956—117,000
1955—157,000
1954—186,000
1953—91,000

Persons with jobs numbered 5,-6:7,000, up 148,000 from May-end and 189,000 from June last year. All of the May-June increase this year occurred in non-farm industries.

Construction appeared to be exerting the strongest pull on available labor supplies.

All five principal regions shared in the employment boom. By regions:

Atlantic: All-time record level of employment. Job-holders June 23 were 531,000, up 32,000 from May and 23,000 from June a year ago. Gains chiefly in agriculture but also in construction, fishing and tourist trade.

Quebec: Increase smaller than last year's record but better than preceding two years. Job-holders, at 1,556,000, up 39,000 from May and 37,000 from June a year ago. Shortage of skilled tradesmen and —except in farm districts—loggers.

Ontario: All-time record level of employment. Job-holders at 2,094,000, up 56,000 from May and 87,000 from June a year ago. Jobless seeking work was unchanged at 1.5% of the labor force. Particular shortage of miners, loggers and unskilled construction workers in northern Ontario.

Prairie: Highest June employment figure on record, about one million, up 9,000 from May and 23,000 from June a year ago. Heavy demands for all labor; many shortages.

Pacific: Employment up again from spring highs to 466,000 job-holders, up 12,000 from May and 19,000 from June a year ago. General shortages. Agriculture continued to suffer from winter frost damage.

Ingersoll-Rand May Split Stock

MONTREAL (Staff) — Shareholders of Canadian Ingersoll-Rand Co. will vote Aug. 13 on a proposal to subdivide the company's present capital stock on a three-for-one basis.

Present capitalization includes an authorized 400,000 n.p.v. common shares of which 197,158 are issued. The last previous stock split was approved Dec. 8, 1939, on a two-for-one basis. At Dec. 31, 1940, capitalization consisted of 400,000 n.p.v. common shares authorized of which 190,400 were issued and outstanding. In 1944, shares outstanding were reduced by 3,722 to 186,678 shares.

Stock has traded at a recent high of $97 and a low of $86 on the Canadian Stock Exchange this year. Range in 1955 was $85-$70.

Canada Safeway Sales Rise 7.2%

Sales of Canadian subsidiaries of **Safeway Stores Inc.,** Oakland, Calif., for the 28 weeks ended July 14 rose 7.2% to $97.3 million ($90.8 million in comparable period a year earlier).

Safeway's Canadian sales rose proportionately more than those for the U. S. parent which increased 1.57% (including all subsidiaries) to $1,049 million ($1,033 million).

For the four weeks ended July 14, Canadian sales were up 9.4% at $15.1 million ($13.8 million) and up 8.23% for parent and all subsidiaries at $157.9 million ($145.9 million).

Number of Canadian store locations in operation total 154 (145) and for the consolidated group 1,986 (2,009).

(Advertisement)

How Your Skin Works

What causes oily or dry skin ...why is a newborn baby's skin wrinkled . . . how does a cut finger mysteriously heal itself . . . why do teenagers get pimples?

August Reader's Digest presents the scientific facts about your self-sealing, self-cooling and exquisitely sensitive skin, how it works to keep you healthy. Get your August Reader's Digest today: 39 articles of lasting interest including the best from current books and magazines, condensed to save your time.

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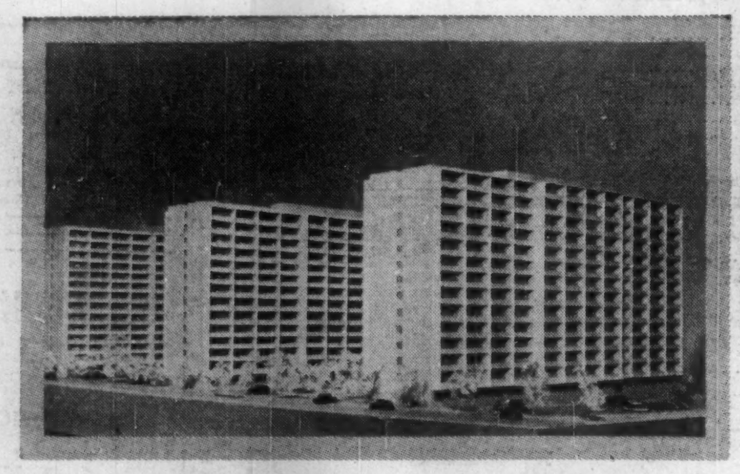
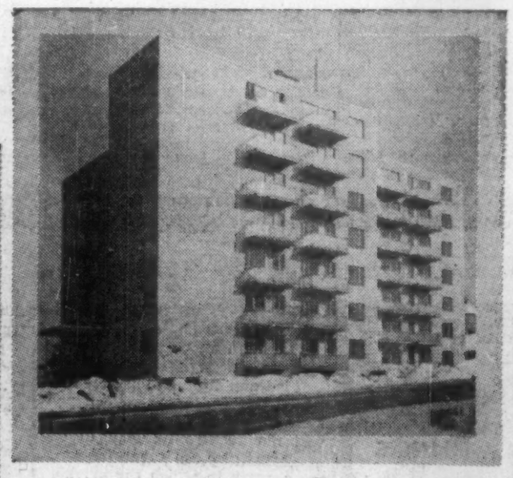


CITY PARK APARTMENTS, *now under construction in mid-town Toronto, will occupy an entire city block—one of the largest projects of this type ever undertaken in Canada. Architect: Peter Caspari. Built for Hubert Buildings Ltd. General Contractors: Taylor Woodrow (Canada). The 12 elevators by Turnbull.*



CAPRI APARTMENTS, *one of Toronto's more attractive new apartment buildings, Architects and builders: Mendelow and Keywan. Elevators by Turnbull.*

FOUR WINDS APARTMENTS, *magnificent new building on Montreal's Cote des Neiges, features ultra-modern design in every detail. Architect: Philip Goodfellow. General Contractors: Tratt Construction Co. Ltd. Duplex Collective elevators by Turnbull.*

Canada's finest apartment buildings call for Canada's finest self-serve elevators...

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On *every* count—convenience, appearance, service, price—it pays to specify TURNBULL Self-Serve Elevators for the modern apartment building.

TURNBULL offers a more practical range of standard passenger elevators designed to suit any building budget while including the flexibility for various tenants' needs.

All TURNBULL Elevators feature superb decorator styling, finest materials and workmanship. Cabs, doors, indicators and appointments are all designed to add prestige and distinction to any lobby.

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TORONTO, CANADA

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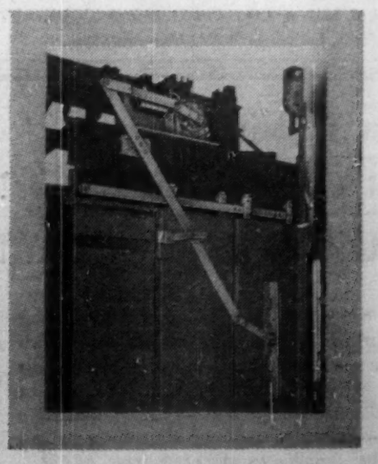
You don't have to wrestle heavy, awkward swinging doors with Turnbull's self-serve apartment elevators. Even with lower cost Turnbull installations, the doors are the power operated sliding type for your convenience. A touch of the finger is all that is needed!



Exclusive Turnbull Synchro-Power Door Operator controls and synchronizes opening of both car and hoistway doors at adjustable speeds. Smooth, and dependable, this Turnbull feature means safety as well as convenience.

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The Financial Post

Vol. L | Twenty Cents an issue, Six Dollars a Year | Publication Office: Toronto, August 4, 1956 | Member of Audit Bureau of Circulations | No. 31

Why Your Copper Stocks Go Acrobatic

Canada is fast developing new supplies of copper — the red metal vital to modern industry. This development is stirring the hopes and fears of investors everywhere.

Wildly gyrating prices for copper in various world markets have alternately sent stock prices reeling upward and then spiraling downward.

Investors and industrialists are wondering what happens now.

- **Copper is an international commodity governed by international businessmen.**
- **Momentarily, its price appears to have stabilized. Will it drop, climb or hold steady?**
- **And what impact will the world picture have on Canadian copper stocks?**

Here is a report that puts Canadian copper stocks in perspective and in relation to world conditions and outlook.

By FRANK KAPLAN

You need a good set of nerves if you're holding copper stocks these days.

—They sparked the spring market boom.

—Then they slumped mid-April to mid-May.

—Now they're showing signs of a comeback.

Behind those gyrations has been the old question of world supply and price.

On speculation of world shortage, the London price jumped from 31c a lb. in 1954 to a top of 55c in March, 1956. In North America, primary producers' price went from 30c to a top of 46c.

—Then the bottom dropped cut and prices fell to a low of about 32½c early in July in London, 40c now in the U. S.

What's ahead? Should you sell, buy or hold your copper stocks? What combination of circumstances can make them boom again?

Let's look first at the international aspects of copper:

Investors must look at the international picture for the key to future levels of copper stocks.

In the world:

- Copper demand and supply appear to be in a temporary balance that authorities feel will prevail for about a year. Copper inventories in the world have gone up about 30,000 tons in the first half of the year. This is not a major increase, particularly since buying has slackened appreciably and inventories likely are being used up. These inventories could be boosted very rapidly if there is a sudden turn in world business activity and regulations that would result in a loosening of credit restrictions.

- Another factor that could quickly upset the copper picture would be strikes in the mines—like those which occurred in Chile last year. Copper production capacity last year ran close to 3 million tons. But actual production at about 2.7 million tons was lower because of strikes and other disruptions. This year it is estimated that production will reach the 3 million ton figure.

- For the future, the mining industry points out that copper use has increased faster overseas than in the U. S. — the world's leading producer - consumer. U. S. consumption is about 15 lb. per capita while use in other countries in total is only 1.8 lb. per capita.

Industry officials confidently expect use to mushroom, particularly in underdeveloped countries. Copper is the key to electric power and industrialization in electronics and other fields.

- By 1958, the Copper and Brass Research Institute estimates that copper capacity in the free world will be about 3.4 million tons. This is based on mines that can reach production by that time. It is likely that this figure will have to be upgraded in the light of Canada's fast-developing copper properties.

- On the demand side, and closely affecting Canadian production, is the outdated predictions of such studies as the famous Paley report in the U. S. This report sees a continuing deficiency in U. S. copper supplies. Although it estimated a deficiency of 500,000 tons annually by 1975, authorities now have doubled this to about one million tons. This is Canada's next-door neighbor and best market. And because of other difficulties in obtaining copper in other countries, the U. S. is likely to look at Canada to a greater extent as an assured source of supply.

- In price, copper industry officials see the 40c price as the pattern into the immediate future. Already there are signs that overseas prices are creeping up to North American levels. Temporarily, depending on world conditions, the price might slide back to 35c, but even at that level, copper will be well above the 30c prevailing through 1954.

Analysts estimate copper producers obtained an average price of almost 37½c for copper last year.

Assuming copper stays at the present level of 40c in North America, the average price should be around 43c a lb. It becomes apparent that existing producers will enjoy even fatter profits than they made in 1955 which was a record year for earnings.

The bearish factors that hit copper markets in late spring were largely the result of an about-face in Europe where the original boom had started. Monetary restrictions aimed at slowing a threatening inflation forced copper users to cut back on inventories and stop buying copper.

What does it all mean to Canadian mines and the outlook for Canadian copper stocks?

Despite new mines like Gaspé coming into production and others expected to be in production in a few years, Canada's share of the world total is not expected to increase substantially. New mines being developed in Rhodesia, Peru, Ireland and other parts of the world will likely leave Canada with about the same 10% share of a higher world total.

But from the mass of confusion resulting from world uncertainty, credit restrictions, the steel strike, drops in automobile and appliance business in the U. S., several major certainties become obvious for Canadian mining.

—The big market boom in the spring in copper stocks gave the mining industry an opportunity to raise money for development at an unprecedented pace. Canadian mining companies with any sort of promising copper property are in a position to carry out extensive development work. And those who find their copper prospects unpromising should still have money left over to go into other fields like nickel and iron ore.

Some of the Stocks Watched by Traders

	Latest Price $	1956 High $	1956 Low $
Anglo-Rouyn	1.50	1.98	1.00
Arcadia Nickel	2.24	2.37	1.72
Bethlehem	2.40	2.40	.90
Bouzan	2.45	3.85	2.10
Brunswick	12.25	14.50	10.25
Campbell Chibougamau	18.12½	28.75	17.37½
Canam	1.49	1.80	1.15
Chib-Kayrand	.58	1.29	.48
Chibougamau Mining	4.25	6.30	3.75
Chibougamau Explorers	1.00	1.88	1.00
Coldstream	1.37	2.25	.95
Cons. Halliwell	1.91	3.75	.44
Cons. Sudbury Basin	3.90	5.40	3.45
Copper Cliff	3.55	6.60	3.25
Coppercrest	.42	.57	.39
Duvan	.90	3.05	.78
Eastern Metals	.66	1.08	.60
Eastern Mining	6.35	7.70	5.60
East Sullivan	5.90	6.75	5.70
Falconbridge	38.00	39.00	29.00
Geco	20.00	24.00	17.00
Granduc	6.60	9.45	5.60
Hudson Bay	95.75	97.50	64.00
International Nickel	98.00	100.00	78.25
Irish Copper	3.00	3.85	2.55
Jaye Exploration	1.10	1.33	.51
Kilembe	3.30	5.10	3.30
Lake Dufault	2.75	3.55	1.95
Lyndhurst	1.28	2.50	1.25
Maritimes	2.70	5.20	2.15
Maybrun	1.45	2.20	.88
Merrill Island	2.80	4.60	2.55
Mogul	3.30	3.95	2.90
New Highridge	.66	1.19	.50
New Jaculet	†3.55	*2.15	*.33
New Manitoba	1.11	1.35	1.00
New Royran	3.55	7.60	2.38
Noranda	60.25	64.50	51.50
Normetal	7.00	7.90	6.60
Norpax	1.47	1.68	.46
North Rankin	1.30	1.67	.80
Northern Canada	1.40	2.00	.56
O'Brien	.82	1.30	.68
Opemiska	15.00	19.50	8.70
Osisko	.43	.63	.40
Quebec Chibougamau	2.15	4.85	1.65
Quebec Copper	1.85	3.50	1.75
Quemont	27.00	2.30	24.75
Rainville	1.60	2.50	1.30
Sherritt-Gordon	8.85	10.25	7.75
Temagami	6.40	9.00	2.25
Weedon Pyrite	.59	.79	.43
Willroy	2.40	3.40	2.17

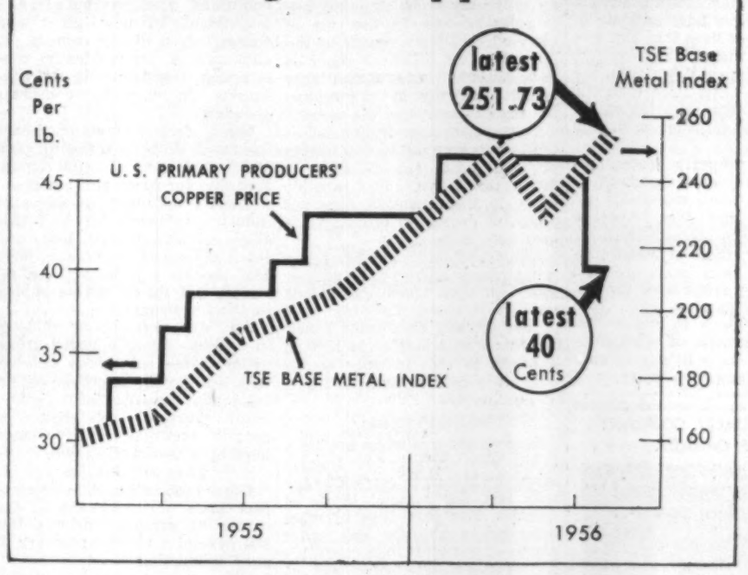
*Range on New Jaculet prior to recent reorganization into Chibougamau-Jaculet on basis of one new share for two old.
†Latest price on Chibougamau-Jaculet.

—Some 30 mining projects of various size are under way that hold out promise of making more copper available to industry. These include many companies still in the diamond drilling stage and present giant producers who are developing additional sources of supply like International Nickel's Mystery Lake deposits.

—Canada will probably get at least one additional smelter to process copper as a result of the many companies working toward production.

—The additional supplies of copper that might be developed from these new sources won't be flowing to market for a year in a few cases and two to three years in most.

The Swing In Copper Stocks



Where are the new properties being developed in Canada?

Across Canada, here are many of the spots where development work is likely to continue no matter what happens to world trading conditions and prices in copper. These are some of the properties that hold out promise of becoming producers.

Newfoundland—**Maritimes Mining** is planning a mill while **New Highridge-O'Brien** joint venture is diamond drilling.

Quebec—In the Chibougamau Camp, **Copper Rand, Merrill Island, Chibougamau Jaculet, Bouzan, New Royran** are among the more promising mines that will put this area on the mining map for sure. **Harvey Hill** mine, **Eastern Metals** are others.

In the Maritimes—copper is associated in base metal projects of **American Metal, Brunswick Mining** and **New Larder U.**

In Ontario—the big copper-nickel producers like **Falconbridge** and **International Nickel** are continuing expansion programs while new properties open up copper in other areas. At Manitouwadge, where a major copper find spurred market activity about two years ago, **Willroy** and **Geco** are moving toward production. **Temagami Mines** is already shipping high-grade copper and other developers include **Arcadia Nickel, Copper Corp., Coldstream, Gordon Lake** division of **Eastern Metals, Norpax.**

In Manitoba—**Glenn Uranium** is sinking a shaft, **Hudson Bay Mining** is reported to have made an unimportant discovery in the Snow Lake area, **International Nickel, Falconbridge, Maybrun** and **New Manitoba** appear to be headed as future suppliers of the red metal.

In British Columbia—**Canam Copper** and **Granduc** are working toward production and Bethlehem Copper promises to be a major property. In the Northwest Territories, **North Rankin** is expected to be a seller of copper.

In addition there are the countless properties and companies which are in more preliminary stages of work across Canada and which may also prove to be copper producers.

These properties and the many other new developments that hold out promise in areas like Bancroft in Ontario and Highland Valley in British Columbia are difficult for the investor to assess.

How can an investor measure the economics of a copper mining operation?

The bulk of copper ore being mined now is about 0.9%, compared with a grade of as high as 5% at the beginning of the century. Some 90% of the world's copper output is produced at a cost below 25c a lb.; some 75% below 17½c and about 50% below 15c a lb.

These are the prices that both the investor and mine-maker must keep in mind. Present developers must be able to compete with such world levels.

And it is to the credit of the Canadian mining industry that officials in charge of copper properties calculate their profit-making point at about 25c to 30c a lb. This means, in effect, that copper would have to slip below 30c a lb. before presently developing properties would become uneconomic.

Canada's Price Second Highest

The Confused Copper Price Picture

	cents per lb.
U. S. Producers	40.00
Canadian Producers	39.25
Belgian	36.00
Rhodesian	33.62½
London	34.62½
U. S. Custom Smelters	38.00

But Our Output Fourth Highest

Where Canada Stands In World Output

	('000's long tons) 1955
United States	988
Chile	409
N. Rhodesia	316
CANADA	259
Belgian Congo	225
Japan	79
Soviet Sphere	355
Other	338
TOTAL	2,969

Mine-makers must take into account transportation, power, open-pit or shaft, type of ore, labor and many other factors in measuring costs. Ore grading 1% might be economical in the case of one mine but a losing proposition in another case. For example, the recently opened **Gaspé Copper** mine owned by Noranda in reported to have an average grade of 1.3%. **Temagami Mining,** on the other hand, is shipping ore grading better than 25%.

Another important factor that enters the copper-investment picture is the "other" metal found with copper. There are few "pure" copper properties. Nickel has been a favorite of investors whether alone or with copper. **International Nickel** is world-famous as a nickel producer and, of course, is a major copper producer. **Noranda** is famous as a copper producer but also gets gold out of its ore.

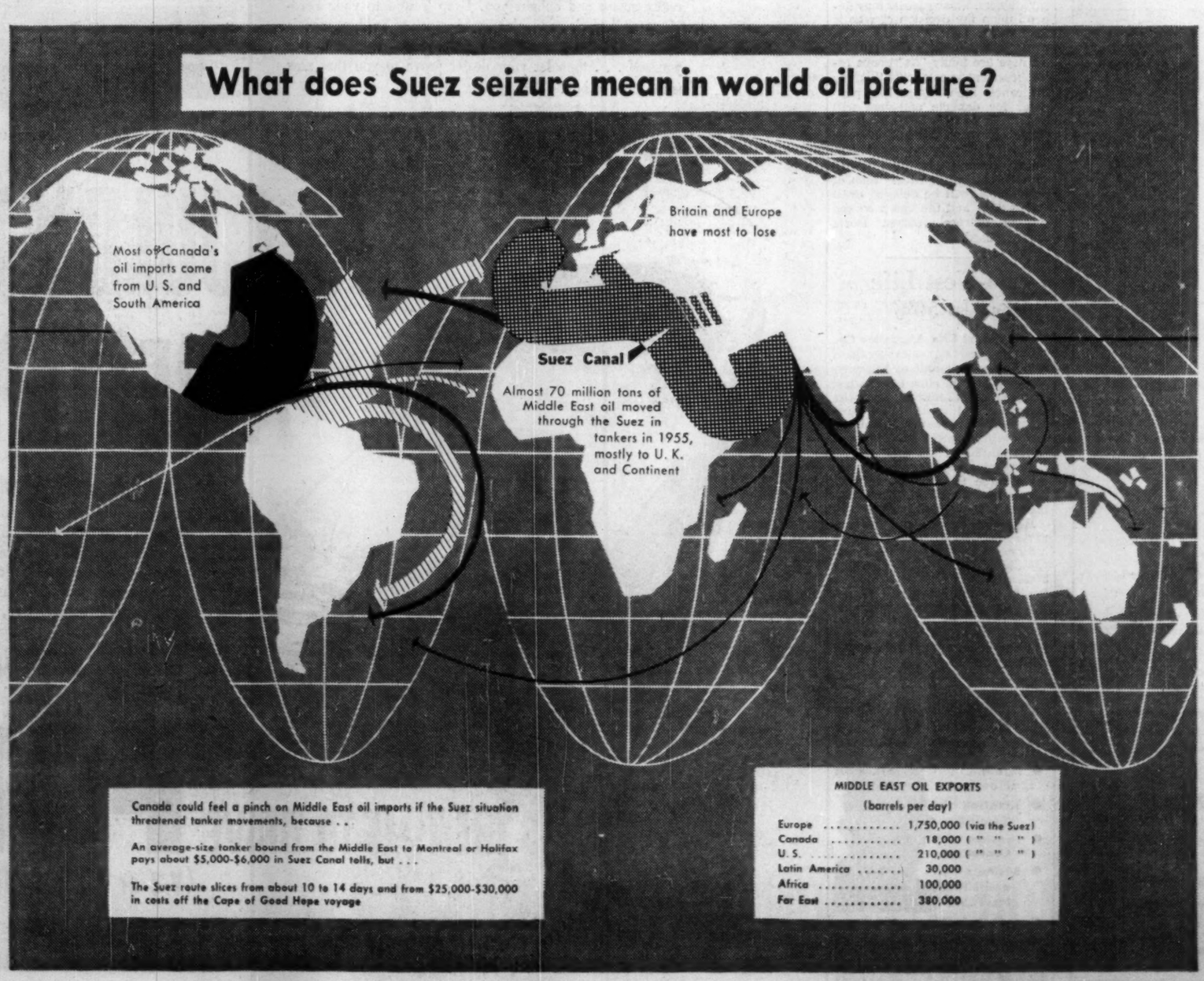
All these imponderables must be measured to assess a potential investment in a mining property and all have a major influence on cost of production.

Too, copper cannot go too high in relation to aluminum which is becoming a major competitor. However, copper industry officials feel that a 35-40c range will effectively meet aluminum competition providing that supplies are ample to meet demand.

The outlook, they conclude, is one of increased markets and increased supplies at reasonably stable prices.

For the investor, this means that the speculative boom is likely over for the time being. Now is the time to assess promising properties on a realistic basis using traditional business indicators like cost, ore reserves, finances.

What does Suez seizure mean in world oil picture?



Canada could feel a pinch on Middle East oil imports if the Suez situation threatened tanker movements, because . . .

An average-size tanker bound from the Middle East to Montreal or Halifax pays about $5,000-$6,000 in Suez Canal tolls, but . . .

The Suez route slices from about 10 to 14 days and from $25,000-$30,000 in costs off the Cape of Good Hope voyage

MIDDLE EAST OIL EXPORTS
(barrels per day)

Europe	1,750,000	(via the Suez)
Canada	18,000	(" " ")
U. S.	210,000	(" " ")
Latin America	30,000	
Africa	100,000	
Far East	380,000	

Basic map courtesy of Shell Oil Co.

Egypt's Big Grab Raises the Value of Canadian Oils

The Suez Canal is a 106-mile, 86-year-old man-made ditch connecting the Mediterranean to the Red Sea and the Indian Ocean —a shipping shortcut between the East and the West.

Since November, 1875, it has been owned and operated by the Suez Canal Co., in which the British Government holds 44% of the stock. Most of the other stockholders are French.

Last week Egypt's 38-year-old premier, Gamal Abdel Nasser, declared the canal would be nationalized, company properties seized and the profits used to build the Aswan Dam, vital to control of Nile floods and power development.

In the volcanic Middle East, it was a bold move, which will have repercussions for a long time.

The biggest question for the United Kingdom and continental Europe boils down to one word: Oil.

As the map shows, Europe obtains 70% of its oil from the Middle East, most of it via the Suez Canal. If that artery is closed, the oil must travel another 6,000 miles around the Cape of Good Hope to reach London. Pipelines to the eastern end of the Mediterranean will supply perhaps half the oil—if Nasser's Arab friends in Iran, Iraq and Saudi Arabia will continue to supply it.

For Canada, the Suez closure would not be serious.

In 1946, we produced only 7% of our oil requirements; now we produce 80% of the 510,000 bbl. a day we use. Most of the balance comes from Venezuela; we get about 18,000 bbl. a day from the Middle East.

If there is real trouble in the Middle East, the logical answer will be (1) more imports from Venezuela, or (2) an extension of the Interprovincial Pipe Line to serve Montreal, already under serious consideration.

With the canal closed, a 10,000-ton tanker traveling from Karachi to Montreal which would normally pay $5,500 in canal tolls, would take another 10-14 days on the trip at a cost of $25,000-$30,000.

From 1930 to 1954, world oil production increased four times, but Middle East oil output jumped 20 times. Proved Middle East reserves are now set at 30.6 billion tons—75% of the proved reserves of the entire non-Soviet bloc.

But politics have made Middle East a hazardous business. The signs point to even more intensive exploration of Canada's vast Prairie and Northwestern areas. Market activity since Egypt's move indicates many investors feel the same way. (See page 4.)

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ANDREA DORIA LESSON

Check Your Policies Before Taking Trip

By DALTON ROBERTSON

Last week's sinking of the luxury liner Andrea Doria is sending would-be ocean travelers scurrying for another look at their insurance protection.

At the same time, a good many insurance companies are keeping close tabs on losses which are likely to prove financially painful for quite a few members of the industry.

There are no complete estimates yet of the value of passengers' personal belongings lost in the sea disaster — or a final estimate of the number of lives lost. But few of the more than 1,700 passengers and crew climbed down from the sinking ship with more than the clothes they were wearing at the time of the collision with the Stockholm.

Personal property losses, it's hazarded, may come to about $1 million.

For Mr. and Mrs. Average Traveler on the Andrea Doria or on any ship, their personal property floater will likely see that they are fully reimbursed for lost property. Without a PPF, passengers are likely to find a $200 limit per passenger on what shipowners will have to pay in case of loss of personal property.

However, if the traveler has a PPF, chances are he will be recompensed by the company issuing the policy almost as fast as he can list the losses and agree with adjusters on fair values. Within the last few years most companies have extended the coverage of their PPF to apply anywhere in the world.

Almost without exception ships carry protection and indemnity insurance similar to liability insurance on a car. Limits of liability will vary from shipping line to shipping line. In the case of the Andrea Doria, maximum liability for loss of life is reported to be $10,000, "if the responsibility is found to be that of the company for the navigation of the vessel."

Compensation for injury or loss of life may turn out to be a knotty problem until responsibility is firmly tied down. This possible delay in compensation does not apply, of course, to ordinary life insurance policies.

Limits of liability can be broken if negligence is ruled to be greater than that upon which the limited liability is based. Take the case of the Canada Steamship Lines' Noronic which burned in 1949 in Toronto. In that instance claims paid were well beyond the limits of liability.

Travel Protection

Ship passengers when buying a ticket are unlikely to inquire about the insurance carried by the ship and the owners' limits of liability. But regardless of what insurance a ship or any other means of transport does carry, it's a good idea for any traveler to reassess his life and property insurance protection before starting out, say insurance men.

With the seemingly impossible having happened to the apparently unsinkable, many trippers will agree.

Aside from losses connected with the passengers, property loss on the Doria herself may total in excess of $60 million. Value of the ship is placed by Lloyds Registry at $32 million. Furnishings and profit value of cargo are thought to be about $28 million. Insurance covering the "hull" totals $16 million, of which $12 million is spread through U.K. and U.S. insurance companies by the placing of reinsurance with these companies by the original insurer.

It is doubtful, say Canadian insurers, if any of the reinsurance on the ship itself was placed in Canada.

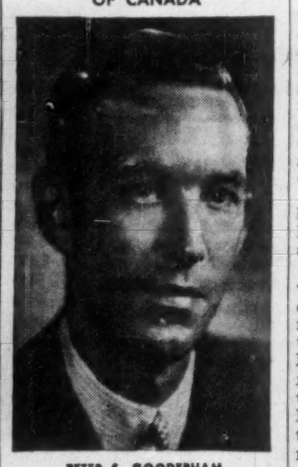
Insurance on cargo shipped on the Doria is usually arranged by individual importers and exporters. Reimbursement for cargo may take several months, it is thought, if the actual declared value of shipments cannot be easily ascertained.

Reimbursement on personal valuables stored in the ship's safes will depend on whether or not the items' owners held policies on them. It is thought that insurance companies are likely to pay for these, and later, as in other coverages, attempt to recover from the shipowners. Their success may depend upon the decision of who is responsible as well as any gains made through salvage operations.

There are many "ifs" about reimbursement in cases like this, say insurance men. Equitable payment for damage and loss will eventually be made. But a definite fixing of responsibility may take up to a few years — and some claims, particularly those of insurance companies rather than of individuals, will be delayed until this is done and the books on the sinking of the Andrea Doria finally closed.

ANNOUNCEMENT

THE CASUALTY COMPANY OF CANADA



PETER S. GOODERHAM

who has been elected to the Board of Directors of The Casualty Company of Canada. Mr. Gooderham is associated with Wills, Bickle & Company, Toronto investment firm. The announcement was made by Henry S. Gooderham, President, The Casualty Company of Canada.

'Gradual Expansion' Ahead In '56-'57 Business Pace?

There's a solid base for business expansion this fall, with gradual rather than sharp gains during the next six months to a year. That's the forecast of Ira T. Ellis, economist for **E. I. du Pont de Nemours & Co.**, published in the current issue of the U. S. Chamber of Commerce magazine, Nation's Business.

At present, the business outlook is clouded by such factors as vacation shutdowns, automobile model changes, the steel strike, and the auto industry's inventory problem.

Those who predict a full upturn, Ellis writes, base their case largely on the expectation of recovery in automobile retail sales, continued rise in business investment in new plant and equipment, and an upturn in expenditures for residential construction, together with the continuing increase in consumer spending.

Other factors mentioned are increased defense spending, and state and local government spending for roads and schools.

There's optimism in the auto industry, although first-half 1956 sales are 25% below 1955, and retail deliveries 18% lower. Most 1957 models will be entirely restyled, and should revive buying in the fourth quarter.

An expected major change in Federal Reserve Board credit policy, some economists believe, will lead to an improvement in residential construction this fall. Some further relaxation of specific restraints on mortgage lending is also anticipated.

Case For Plateau

Other economists, Ellis says, expect little or no change in the course of general business this fall beyond a normal recovery in steel production.

They feel that heavy capital investment intentions will provide enough inflation potential to warrant keeping money tight, and that the credit restraints will therefore stay.

Even if there were a change in monetary policy, this group argues, there are still many other factors that influence consumers' decisions to buy. Credit facilitates sales; it does not cause them.

More time may be required, it is suggested, for consumers to digest their inventories of houses, cars and TVs before re-entering the market in substantial numbers.

Decline Ahead?

A third group of economists, Ellis notes, anticipate the beginning of a recession in the fourth quarter. A change in underlying business sentiment will have a negative effect on inventory building and the huge capital expenditure program, they feel.

There is no guarantee that planned capital expenditures will be carried out. A change in the business climate could quickly lead to postponement or cancellation of projects not already under way. This would affect business principally in 1957 rather than in 1956.

Finally, in support of a decline, it is argued that disappointing sales in many areas during 1956 will lead to inventory liquidation and a downward revision of capital spending plans, thus ending the general business rise that began late in 1954.

Gradual Expansion

The du Pont economist's own prediction is that the present mixed trends will be followed by further gradual expansion late in 1956, assuming no major change in the international situation.

"The economy has been through an adjustment of major proportions during the past 12 months," Ellis says. "The magnitude of this adjustment is hidden from the casual observer of economic statistics because of the way in which divergent trends tend to cancel out."

While there is a solid basis for business expansion this fall, it will not be like late 1954's pronounced upturn. It will be supported by near capacity operations in the steel industry, increased auto output, rising capital investment by business, rising consumer spending, and expansion in spending of state and local governments.

"The principal changes will occur in the civilian sector of the economy, where product development, sales promotion and competition are most evident," writes Ellis.

"It seems likely that most consumer markets will continue to be quite competitive. Profit margins will be under significant pressure. Rigid cost control will be necessary."

He concludes:

"Both the very short and the very long run outlook for business are encouraging, the former as discussed here and the latter based on a study of basic growth trends in the economy.

"But these two periods do not necessarily follow each other in time. Somewhere in between a period exists about which we know little except that its general characteristics will be determined by events that precede it.

"For this reason caution is urged in the months ahead when the economy again begins to move forward."

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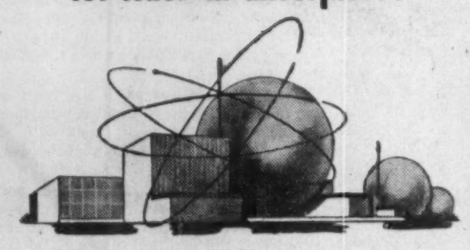

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Great-West Life Sales Up 50%

Great-West Life Assurance Co., Winnipeg, new life sales increased 58% in the first half of this year compared to the same months last year to top $271 million. Total life insurance and annuities in force increased by a net $231 million over the six-month period to reach $3,197 million at mid-year.

Premium and investment income came to over $52 million. Assets rose by $17 million bringing the total to $573 million.

Biggest increases in the January-June period took place in ordinary life sales which were up 62%. Group sales surged ahead by 37%. Group insurance accounts for $1,169 million of all Great-West insurance in force. Personal accident and health sales advanced 16% with premium income running at an annual rate of $19 million.

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ANNOUNCEMENT

G. L. GARDINER

DR. G. A. LORENZ

G. Davidson, Vice-President-Manufacturing, Shell Oil Company of Canada, Limited, has announced the appointment of G. L. Gardiner as General Assistant to the Vice-President, Mr. Gardiner was formerly Manager of the company's Shellburn Refinery at Vancouver. Dr. G. A. Lorenz, presently Assistant Manager at Montreal East Refinery, will assume the duties of Manager at Shellburn Refinery.

Of his 28 years with Shell, George Gardiner has spent the last fourteen and a half at Shellburn. Under his management, the refinery grew from a modest plant of 4,000 barrels per day to a fully integrated 20,000 barrel per day refinery, embodying the latest refining tools of catalytic cracking and platforming. He will take up his new duties in the Toronto head office of the company early in the Fall.

In his 20 years of service with Shell, George Lorenz has occupied positions of increasing importance in research, technological and operating activities. He came to Montreal East Refinery in February, 1955, from Shell Oil Company's Wilmington Refinery, California.

If You Want To Boost Sales

• Cash-Only Can Be Suicidal
• Get On Credit Bandwagon
• Handle Payments Yourself

The 23,000-member U. S. National Retail Hardware Association held its 57th congress in Toronto last week. It marked the affiliation with NRHA of Canadian Retail Hardware Association.

The big topic: Credit buying — a field in which many hardware stores have lagged.

A Salem, Ore., hardware businessman, Reynolds Allen, had some blunt, almost bitter, things to say about credit buying. Much of Allen's reasoning has far wider application than for hardware retailing alone.

Here's a digest:

By REYNOLDS ALLEN

One major change in consumer thinking has done more than anything else to expand our prosperity.

A generation ago, consumers bought an item only when desire, need and ready cash were all at hand. Today, desire of ownership, alone, plays the big part.

Need has become almost unimportant.

Is TV a necessity? Does anyone need whitewall tires? Necessity plays a very minor role in spending. And as far as cash-on-hand is concerned, that's for a minority of the older generation still clinging to the old teachings that a person can't "spend himself rich."

Young couples forming new homes in 1956 buy what they want, when they want it and think they need it, on a budget plan whose future payments worry them not one bit. The store that doesn't have a budget selling scheme is automatically out of their plans and out of their lives.

People's finances are so far committed that they cannot possibly purchase major items from a hardware store that does not offer an easy pay plan. It is sad that many dealers refuse to recognize this.

I believe that our hardware dealers in the Pacific Northwest are as progressive as any in North America. But in this age of credit selling, there are still stores displaying the time-honored sign, "In God we trust, all others cash."

You Can't Win

So where does a customer go when his cash is low? Though he would like to buy big-ticket items from a friendly hardware man, shortage of cash forces him to find a firm with a budget plan.

And on the other hand, if a customer has got cash, how does he set about spending it? He starts off on the price concession angle, promptly forgetting all those favors that his local store has given him for years.

If the poor dealer does not sacrifice his margin, the customer winds up making his purchase from a discount house, at a substantial saving, and his favorite store gets the doubtful pleasure of taking care of the service problems.

More and more big-ticket sales are going to the easy-pay, chain or department store, while cash-on-the-line dealers are getting only the table scraps. There are only certain fields in which the small retailer can specialize and outsell all competition:

- Hardwaremen cut more poultry netting and thread more water pipe than any mail order house ever will.
- They replace more lost bolts on junior's coaster wagon (bought elsewhere) and repair more leaky faucets than all the chains combined.
- They have a corner on dispensing free "do-it-yourself" advice.

Yes, the creed of the handy, helpful hardwareman is "Service with a smile," and, he should add, at a loss, too, unless he gets big-ticket business.

Happily, not all retailers take a dim view of credit selling, and some are doing a wonderful job of it. So far, these stores are the exception.

New Credit Ways

By 1956 standards, our own retail stores in Salem are quite backward in the scramble for credit business. Though nearly 60% of our volume is credit business, we are still procrastinating in jumping onto the revolving credit bandwagon.

Several years ago we changed over from the regular, conditional, sales contract that was discounted at local banks, on bank terms, to the opened, or add-on, type of conditional sales contracts which we control and carry ourselves.

To those dealers who have not got this far, I heartily recommend that they make the move.

It will help your sales volume. It improves your relationship with your customers.

Well over half of the installment payments are made in person, substantially increasing your floor traffic. You will find a younger group of customers will start gradually to come your way because you will be better serving their needs. Most young couples of today are so far committed on installments, that they have to make most of their larger purchases where payments can be absorbed in their present payment schedule. An open-end contract meets their requirements.

The big advantage offered by the "old fashioned" open-end conditional sales contract for the hardware dealer is that, though he may not be an expert on credit and he doesn't have a high powered collection department, he still has the protection of the title to all merchandise that is on such a contract, until it is paid in full.

The big boys are treating this security lightly as they go full speed onto the mad merry-go-round of revolving credit.

One department store executive is quoted as saying:

"One beauty of this plan is that once a customer gets on the books, he never gets off, he just goes round and round." Another predicts that in five years revolving credit is the only kind his firm will be offering.

The system began to gain popularity about three years ago.

Perhaps you are thinking that easy credit is one of the evils of our generation. Just remember: If a customer deserves credit and you won't sell him, one of your competitors will.

Some advocates of the cash system say that credit merchants are digging their own graves. I would put it this way: If we don't follow the business practices of our era, and use credit selling as a sales tool, our competitors will dig our graves for us.

The dealer who is not in position to finance consumer paper out of his own funds, has three basic alternatives:

- He can arrange bank borrowing to cover his accounts and contracts receivable.
- He can arrange to discount his contracts receivable at a bank, or through one of the recognized finance companies.
- He can sell his receivables to a finance company without recourse, if he writes them on the finance company's terms.

Any of the three alternatives is better than offering no credit service, and each has some merit. But I would emphatically recommend them in the order mentioned.

With the first, the dealer who carries his own contracts and accounts, not only has complete control of the entire transaction, from beginning to end, but he also has the customer coming into his store many times a year to make payments and be exposed to a sales pitch and buying impulse. He also has the opportunity to earn a minimum of 12% interest on the money that is going to cost him 5% or less from his bank.

Charges Can Be High

When a dealer discounts or sells his receivables, as in the other two alternatives, he loses some control of the transaction because it is no longer a relationship between the store and the customer.

A third party may destroy the goodwill which you have toiled so hard to create. Unless you carry your own paper, you may never see your customer again, but at least, a big-ticket sale has been made that would have otherwise gone to one of your competitors.

"My customers will quit me if I try to charge them interest rates higher than those at the bank," seems to be the fearful opinion of many retail merchants. They are wrong in several respects:

People are getting accustomed to not only 18% interest, but a good deal more, as evidenced by the amazing growth of the private loan companies.

It seems that 95% of the people aren't the slightest bit interested in the amount or rate of the carrying charge.

The size of the monthly payment is all that matters.

It has been said that successful outlets are rapidly digressing to two extremes; the high quality, well displayed, expensively fixtured, service-giving sales organization that gets full price for its goods; and the "bargain barn" type of outlet that gives no service, no customer guidance, no guarantee, no credit, looks crummy and sells for less.

Most retail hardware stores of today are in the unfortunate position of being in the middle; trying to get the good price, without giving the good service.

One of the most important of these services is a credit plan to meet the customer's budget needs.

And don't ever think that just because you install a new and streamlined credit service, the public will beat a path to your door. Credit selling has to be promoted, advertised, talked, explained and pointed up constantly and everlastingly.

ANNOUNCEMENT

N'FURNO Furnaces
Quebec and Maritimes
Representative

NELSON LECLERC

whose appointment as field representative for Quebec and the Maritimes is announced by Mr. T. H. Bulloch, president of Bulloch's Limited, manufacturers of N'FURNO Furnaces.

Mr. Leclerc is well known in the appliance and heating fields having more than 10 year's experience in the marketing of consumer products in Canada.

ANNOUNCEMENT

APPOINTMENTS AT STOWELL SCREW

ARTHUR T. BARNETT

JACK M. RAYMOND

J. M. Boulard, President, The Stowell Screw Company Limited, Montreal, announces the appointments of Arthur T. Barnett as Sales Manager for Canada and Jack M. Raymond as Manager of Sales Research and Planning.

Mr. Barnett is well known in the various trade fields, having spent over 25 years in wholesale hardware and manufacturing companies, originally as Purchasing Agent and latterly as Sales Manager for leading Canadian firms.

Mr. Raymond has been actively engaged in sales planning and merchandising for many years. He started in the industrial field and for the past 20 years has been associated with several leading advertising agencies.

WHY IT PAYS TO BUILD AROUND A TAYLOR VAULT DOOR

1. J. & J. Taylor offers you *free advice* on all knotty installation problems — sound advice, too, because Taylors have been selling and servicing vault doors in Canada longer than any other company.
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Write today for your free vault door catalogue, J. & J. Taylor Limited, Dept. D3, 145 Front St. E., Toronto, Ontario.

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J. & J. TAYLOR LIMITED
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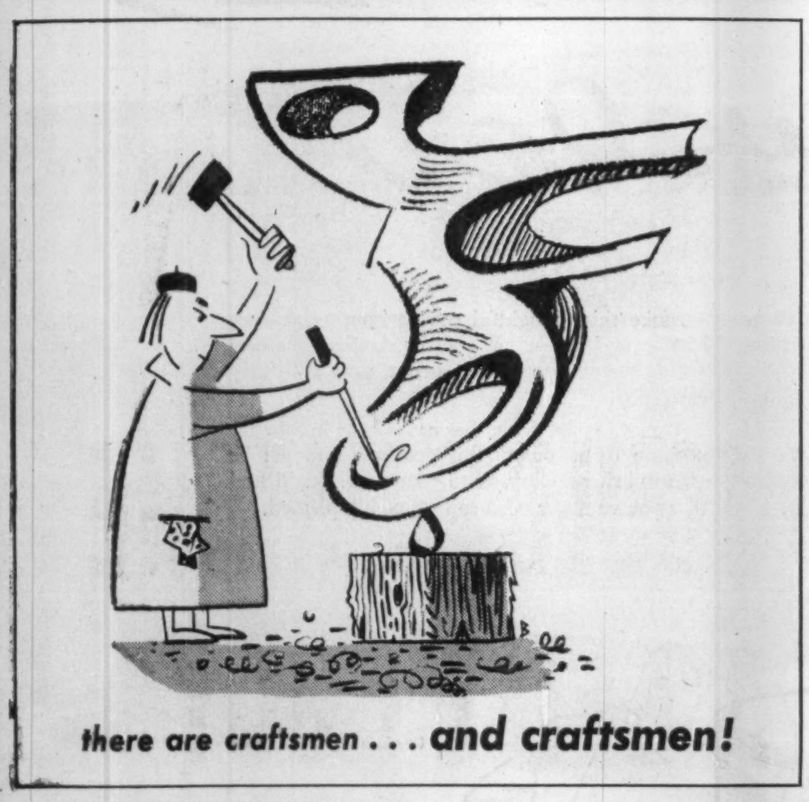
Montreal Winnipeg Vancouver

Canadian Distributor of Twinlock Loose Leaf and Posting Equipment



there are craftsmen . . . and craftsmen!

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Our faith in our business is exemplified by our new plant, warehouse and office building located at the 'Crossroads of Ontario'. We think it's the most modern of its kind in Canada — perhaps North America. But drive out and see for yourself one of these days.

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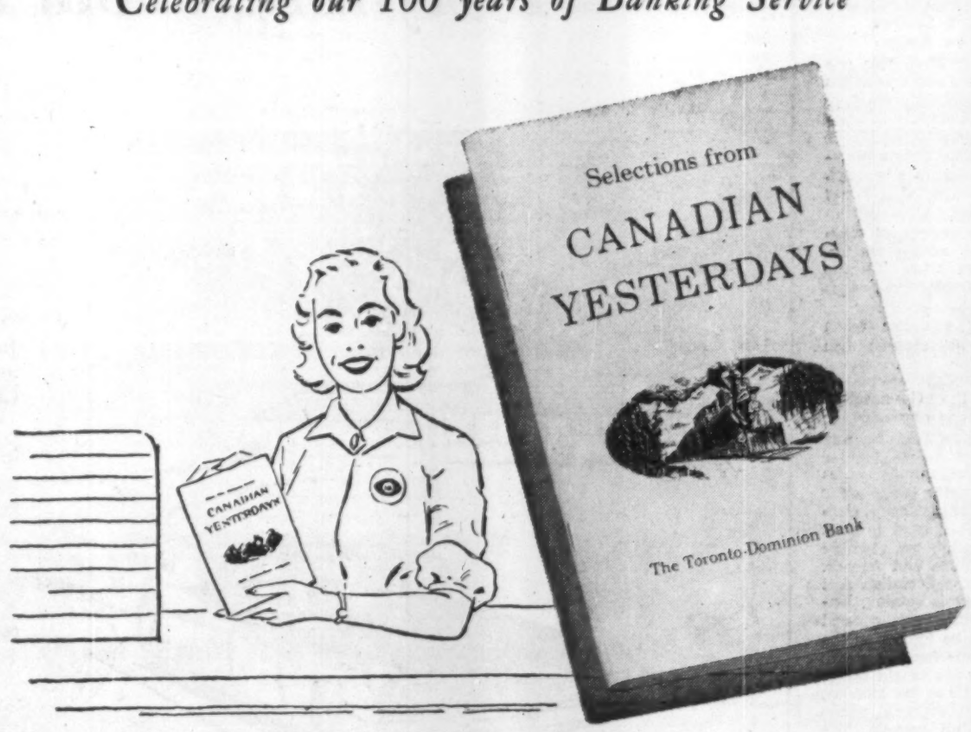

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LOOKING AHEAD 100 ANOTHER 100 YEARS

THE TORONTO-DOMINION BANK
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8-1402

Letter from London by Adelphi

Toronto occupied much space in the sporting columns of the British press when the eminent brunette, Archie Moore of the U. S. punched your James Parker into surrender. For those of us who know the Queen City it was interesting to read about the goings on and the splendid spectacle, even though no glory was added to the Maple Leaf.

If it is any comfort to you we have no heavyweights in England who could crack an egg much less smash a jaw. Yet there is always a great crowd willing to pay for ringside seats. At any rate you have met our Jack Solomons who is not only a philosopher but has the ease and charm of an ambassador.

No matter who takes the count it is always Mr. Solomons who takes the cash. It is not his fault that so many British heavyweights assume the horizontal position.

Test Match Team Trounces Aussies

But do not think that we are without glory in sport. The English Test Match team is giving the Australians a trouncing they will not soon forget.

Today at Old Trafford a handsome young London curate named David Sheppard had scored 97 runs before lunch by faultless batting and was within three runs of his century. And did he play safe to get those three runs? Not at all! He took a swipe at the ball which sent it into space.

I watched the whole thing on television and it was good to see the Australian fielders running to the wicket to shake hands with our hero. As for the sedate crowd they just went crazy.

It was of a special interest to me because a few nights previously I had attended a dinner at the House of Lords given in honor of the visiting Australian team. Our host was Lord Dovercourt who divides his life between watching cricket and guiding the fortunes of the vast Beecham combine which supplies so many kinds of pills to the nation.

Sir Anthony's Charm Fades In The House

Sir Anthony Eden was one of the speakers and was at his best. If he could only speak in the Commons with the same charm and ease he would be the most popular Prime Minister for a quarter of a century. Instead of which he is under constant attack.

Yet he has undoubted courage and he never whines. Crisis follows crisis but his head is unbowed even though it is bloody.

I cannot remember when this country has been in such ill temper with itself. Nothing seems to go right no matter how hard the Government tries. Thousands of motor car workmen are on strike because the companies laid off men to make room for automation. It is true that there are jobs for them in other factories elsewhere, but it is hard to shift a man from the town where he has his home and friends.

Naturally the Socialists feel that their day is coming. Undoubtedly the next general election will be fought on the cry: "It is time for a change!"

One of the few bright things in Britain's life at this moment is the tourist invasion which has broken all records. The hotels in London are packed to the ceiling, and the theatres are enjoying a welcome boom.

Nor is the boom confined to London. Scotland is proving an irresistible magnet to the touring visitors—and what is lovelier than the Highlands with their golden sunshine and their mists?

We have also had the pleasure of entertaining Miss Marilyn Monroe of Hollywood and her husband Arthur Miller. Unfortunately the dementia of enthusiasm was cut short by the news that Mr. Miller had been charged, in his absence, with un-American activities. Spain is not the only country which has experience of an inquisition.

Miss Monroe's Eyes Show Wistful Wonder

Each country must have its own standards of judgment and make the law according to it, but there is much to be said for the British system of allowing the Communists to run candidates for Parliament and local councils. It is impossible not to feel sympathy for Marilyn Monroe who looks like a wistful lovely creature who does not understand what is going on.

However, Sir Laurence Olivier has taken her under his wing and is to make a film with her based on Terence Rattigan's successful play "The Sleeping Prince."

In this current week the nation paused to honor the centenary of Bernard Shaw's birth. There was a festival week at Malvern in the Shakespeare country with a special presentation of Shaw's play "Caesar and Cleopatra." But Shaw still remains an unloved figure except by those who knew him intimately. As one philosopher said: "Shaw made us think and the British will never forgive an author who does that."

His study of the kitten of the Nile was made topical by the antics of Colonel Nasser who has become the serpent of that historic river. There is a nice touch of irony about his announcement that he intends to nationalize the Canal.

Truly the British are going through a grim period of denigration. It was only a short time ago that our troops were in the Canal Zone but now they are in Cyprus. Undoubtedly the Russians are playing Nasser up with great skill. Their penetration of Cairo has been shrewd and damaging.

Fortunately the Anglo-American entente seems to be working well. Our Foreign Secretary, Selwyn Lloyd, is not a great orator and does not inflame the public imagination, but he has a first-class brain and an intimate understanding of the world situation.

As a back room boy he is first rate. It is only when he comes into the front room and is in full view that his stature seems to lessen.

New Lottery Opening Conversation Piece

However, the thoughts of the British are not merely on politics nor even sport. The great topic of conversation is the approach of the day when Britain, breaking with tradition, will begin its first National Lottery—although it is not known by that name.

This, broadly speaking, is the scheme:

We can buy a one-pound bond from the Chancellor, or as many as you like. The Treasury then puts into a fund the interest at 4%. Beginning in six months' time there will be draws at stated intervals. If the number of your bond comes up you get a prize of £1,000, the prize money being from the accumulated interest.

The clever part of it is that after six months you can withdraw your pound or as many pounds as you have expended in buying bonds.

Thus the Chancellor borrows money at a rate below the prevailing figure, he reduces the amount of purchasing power in the country, and he gives substantial wins to the lucky holders.

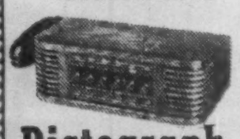
Poor Little Tommy Can't Bet His Quid

The Socialists have charged Macmillan with turning the Treasury into a gambling casino, but he is quite unperturbed. It will be immensely popular despite the moral indignation of the Nonconformists and the Chadbands. However, the critics have won one victory in the fight. No bonds can be purchased by school children. Little Tommy Smith will still have to content himself with six pence in the Xmas raffle.

Just to finish this picture of Britain in the grip of the holiday spirit, let us enjoy a smile over the activities of no less a person than the Earl of Selborne. Shocked by the vulgarities and flippancy of the popular press, he has advocated a reform whereby a Press Council should be set up to ensure that all newspapers should be made to conform in ethics and choice of news to the issue of the Times on July 15 of this year.

Even the old Thunderer blushed. As for the nation there was a shout of laughter that traveled from London to the Hebrides. But the weather has been very hot and the noble earl is obviously suffering from a touch of the sun.

FOR INSIDE TELEPHONING



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Maritime Tel. Plan Issue Shares To Bring $3 Mill.

MONTREAL (Staff) — The issue of 221,982 additional shares of common stock has been proposed by the **Maritime Telegraph & Telephone Co.**

The proposal, by which one new share would be issued through rights on the basis of every seven shares now held, is scheduled to go before the Nova Scotia Public Utilities Board for approval August 6. Price of the issue will also be determined by the Board.

Sale of the stock, it is expected, will provide the company with $3 million in new capital which will be used to help finance the current capital expansion program.

The 1965 program calls for expenditure of some $7 million for a wide variety of projects including erection of a service centre in Halifax and extensive manual to dial conversion of various telephone exchanges throughout Nova Scotia.

Last issue of common stock took place in November, 1953 when 259,681 shares were offered at $13 each on the basis of one new share for every eight shares held.

As at Dec. 31, 1955 total authorized capital stock of the company was $25 million of which amount $1,599,999 in 7% preferred cumulative, non callable ($10 par) shares and 1,376,876 ($10 par) common shares were issued and outstanding.

Net profit for 1955 was $1,623,646 compared with $1,336,770 in 1954. On the basis of the number of shares outstanding as at Dec. 31, 1955, common shares earned $1.10 and paid 80c during the year.

UNION ACCEPTANCE Corp. during June issued an additional 1,220 participating non-voting second preferred shares under employees' stock option plan. Now 191,072 second preferred shares and 201,432 common shares outstanding.

5000 TONS ASTM STANDARD STEEL PLATE OFFERED . . . .

For third fourth quarter booking.
Other types of steel available.
Structural angles, bars, etc.
Steel pipe conferring to ASTM-A-120
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M. A. STEWART & SONS LTD.
ANNACIS ISLAND INDUSTRIAL ESTATE
NEW WESTMINSTER, B.C.

Cons. Paper Net Earnings Zoom

MONTREAL (Staff) — **Consolidated Paper Corp.** net profit for the six months ending June 30, 1956 was $7,852,962 ($6,798,352 a year ago), equal to $1.53 ($1.32) per common share.

Net earnings of $17,026,459 compare with $14,438,026 in the first half of 1955. In the first half of 1955, company realized a profit of $42,500 through sale of assets. No similar profit was realized in the first half of the current fiscal year.

BEAT WINTER With an ORLYT GREENHOUSE

Extend summer through winter with a beautiful, bright, and maintenance-free Orlyt aluminum greenhouse. Easy-to-put-up. Extra light and amply ventilated. Perfect for growing anything from African violets to orchids. Send for new 32-page catalog No. FP-9.

LORD & BURNHAM CO. LTD.
St. Catharines, Ont.

ORLYT PREFABRICATED The GREENHOUSE

ANNOUNCEMENT

ALBERT O'B. ANDREWS

THOMAS B. COOPER

ARTHUR R. MacCALLUM

ALEX PIRRIE

Mr. C. W. Johnson, President of American-Standard Products (Canada) Limited, recently announced the appointment of four company officers to Vice-Presidencies and four to managerial positions. These are: Albert O'B. Andrews, Vice-President and Director; Thomas B. Cooper, Vice-President, Secretary and Treasurer; Arthur R. MacCallum, C.A., Vice-President and Comptroller, and Alex Pirrie, Vice-President, Manufacturing. All are former Standard-Dominion Officers with the exception of Mr. Andrews who served as assistant to the president of American Radiator & Standard Sanitary Corporation, U.S.A. The four managerial appointments are: R. Jarvie, Sales Manager, Plumbing and Heating Products; R. N. Mathews, Sales Manager, Kewanee-Ross Products; R. R. Noyes, Sales Manager, Canadian Sirocco Products; H. T. Williams, Assistant Sales Manager, Plumbing and Heating Products.

Everything about it says, "luxury"... except its price

Chrysler

Just once, before you purchase a lesser car, come in and actually *look* at the price tag on a beautiful Chrysler. It will pleasantly surprise you.

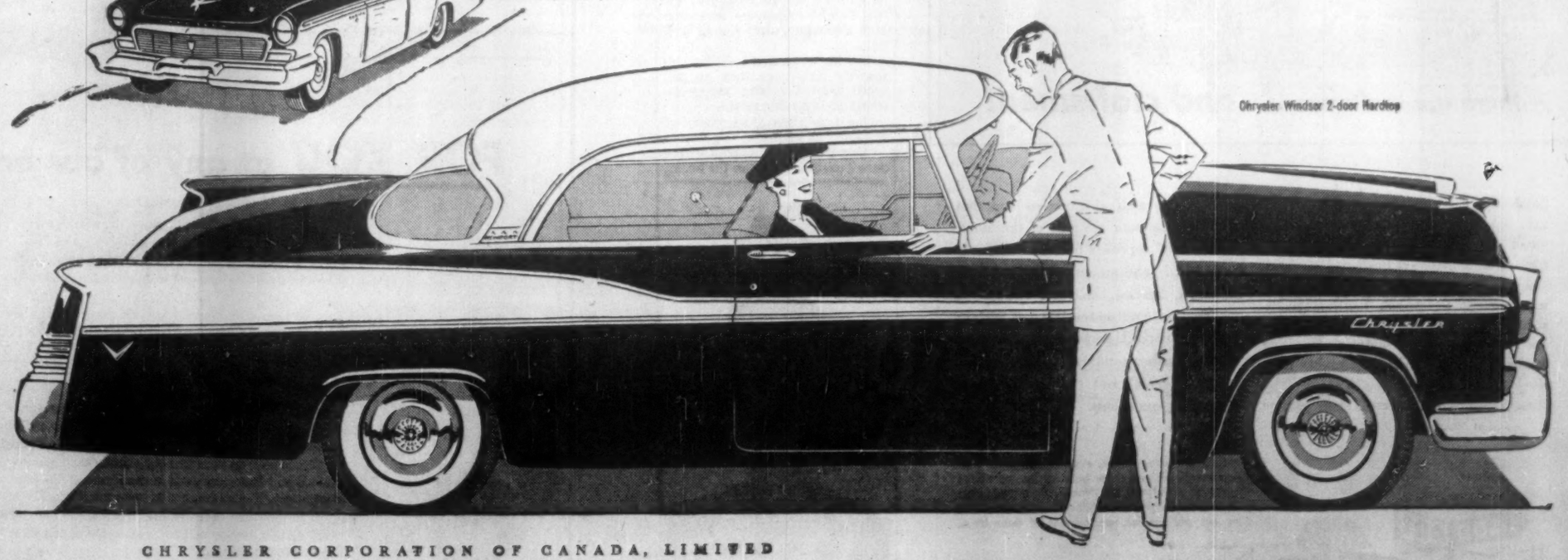
For the true cost of this superb motorcar is far, far lower than its graceful, expensive appearance would suggest. And, too, many features, such as Chrysler's new push-button PowerFlite automatic transmission, are standard equipment on this fine car.

Make this thoughtful comparison, today—see how a big Chrysler with all its standard features actually compares with other cars similarly equipped.

Your Chrysler dealer has never been in a better position to put you into this great car. And he'll be glad to bring a Chrysler to your door. You'll find that you've never been so thoroughly pleased.

Chrysler New Yorker 4-door Sedan

Chrysler Windsor 2-door Hardtop



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In a nutshell, that's our whole point. At S.R.T. we have set up one of the most modern Service Bureaus in the business. We have 15 I.B.M. Machines that provide a wide range of statistical operation. Whatever the problems in your own Punched Card accounting, we can set our machines to come up with the answers.
We work for many clients on a confidential basis. Our equipment is hopping all day long (and often far into the night). You pay for only the actual time we spend on your work. There are no hidden charges, no overtime rates. Our complete service is based on an hourly rate and that's ALL you pay.
Try us. Pick up the 'phone or drop us a line. We've made some pretty strong statements here concerning costs and we'd like you to make us prove them.
STATISTICAL REPORTING AND TABULATING LIMITED
55 Wellington St. W. Toronto, Ont.
EMpire 4-3587

THE INVESTMENT FUNDS

Grouped Income Value Rises 39% In Quarter

Grouped Income Shares Ltd., Vancouver, net assets rose to $3,100,136 at June 30, 1956, 39.07% higher than $2,229,065 at March 31, 1956 and 247% higher than $893,415 at June, 1955.

Net asset value per share declined to $3.92, 2.73% lower than $4.03 at March 31 and 5.09% higher than $3.73 at end of previous June (allowing two-for-one stock split effective Dec. 15, 1955).

Portfolio at the end of quarter included common stocks in 49 companies (47 companies at end of previous quarter) of which 35 (33) were Canadian.

During the quarter Fund made the following changes in stock holdings:

—Addition of two Canadian stocks.

—Increases in 33 Canadian stocks and 12 U. S. stocks.

Here are the quarter's portfolio changes in detail:

	Shares Held June 30	Change Since Mar. 31
Canadian Stocks:	1956	1956
Abitibi P. & P.	1,800	+200
Aluminium Ltd.	1,000	+300
Asbestos Corp.	900	+100
B. A. Oil	2,500	+1,100
Calgary Power	1,000	+600
CPR	1,900	+700
Cons. Mng. & Smeltg.	1,400	+200
Cons. Paper	800	+100
Dom. Tar & Chem.	3,000	+500
Ford of Can., A	800	+300
Fraser Cos.	1,300	+300
Goodyear Tire	400	+100
Gunnar Mines	2,300	+600
Gypsum, Lime	2,200	+1,500
H. Smith Paper	1,200	+200
Ind. Accept.	800	+200
Int. Nickel	1,100	+200
Int. Utilities	1,300	+800
Interprov. Pipeline	1,300	+1,300
Kerr-Addison Gold	1,500	+675
Massey-H.-Ferg.	6,000	+1,000
MacMillan & Bloedel	1,000	+400
Noranda Mines	1,400	+200
Page-Hersey Tubes	1,100	+300
Pembina Pipeline	700	+700
Powell River	900	+105
St. Lawrence Corp.	900	+600
Steel Co.	1,150	+250
Steep Rock	1,800	+1,300
Traders Finance, A	600	+200
Do., B	600	+200
Union Gas	1,800	+1,200
Western Plywood	2,200	+1,525
Geo. Weston, A	1,000	+50
Do., B	1,000	+50
American Stocks:	Shares Held	Change Since
Am. Airlines	2,000	+500
Am. Cyanamid	1,000	+400
Babcock & Wilcox	1,000	+800
Boeing Aircraft	600	+100
Douglas Aircraft	700	+300
Gen. Dynamics	1,200	+200
Radio Corp.	1,600	+500
Skelly Oil	1,600	+500
Standard Oil, N.J.	1,700	+200
Sylvania	1,600	+500
Union Carbide	600	+200
U. S. Steel	1,500	+600

Mutual Accumulating Fund Value Rises 8% in Quarter

Mutual Accumulating Fund, Vancouver net assets rose to $13,718,320 at June 30, 1956, 7.98% higher than $12,704,280 at March 31, 1956 and 53.66% higher than $8,927,509 at June 30, 1955.

Net asset value per share rose to $6.61 at June 30, 0.46% higher than $6.58 at March 31 and 10.72% higher than $5.97 at end of previous June.

Portfolio included 44 common stocks at end of quarter (47 common at end of previous quarter). Assets were invested 74.37% (73.6%) in stocks, 1.46% (1.57%) in interest bearing deposits, 21.79% (23.61%) in government bonds, and 2.38% (1.22%) in net cash and receivables.

Changes during the quarter included:

—Elimination of three stocks.
—Increase in 14 stocks.
—Reductions in two stocks.

Here are the quarter's changes in detail.

	Shares Held June 30	Change Since Mar. 31
Common Stock:	1956	1956
Aluminium Ltd.	4,500	+500
B. A. Oil	11,500	+5,260
B. C. Power	5,500	+500
Can. Malting		—1,250
Cdn. Breweries	3,850	—2,150
Cdn. Oil	17,500	+10,500
Dom. Bridge	5,000	+400
Dom. Fdries. & St.	4,900	+1,900
Dom. Tar & Chem.	18,000	+3,000
Ford Motor of Can., A	3,600	+920
Gypsum, Lime & Ala.	8,000	+4,000
Imperial Oil	12,000	+1,000
Ind. Accept.	7,350	+2,350
McColl-Frontenac Oil	5,300	+300
Nat. Drug	3,800	—2,800
Page-Hersey	3,000	+955
Steel Co.	8,100	+1,185
H. Walker-G. & W.		—150
Westeel Products		—500

Chemical Comp'y Adds New Lines

Facilities for anhydrous sulphur trioxide sulphonation have been installed at the Longford Mills, Ont. plant of **Chemical Developments of Canada.** The plant is an original design of the company and has been operating successfully for several months supplying low salt content alkyl aryl sulphonates to manufacturers of household liquid detergents where low salt content is necessary.

A line of sulphonated surface active agents is being offered under the trade name Sorapon. A further expansion of this line is planned.

Inland Cement Will Double Plant Capacity

MONTREAL (Staff)—Evidence of the strong demand for cement is reflected this week in a prospectus for a new stock issue of the recently established **Inland Cement Co.**

Here are highlights of the company's growth over the past several months and its future as its recent prospectus:

—Orders for company's cement have exceeded output of the present plant since shipments started last April.

—Prospects for profitable operation of the additional facilities now being installed are considered favorable because of demand situation to date. (First five-month shipments by all Canadian cement manufacturers are 21% higher than in same period last year.)

—Company is pursuing its detailed study of a proposal to construct a plant at the Edmonton site to produce lime and lime products which will use as their basic raw materials the limestone produced at company's quarry.

—Funds from recent $6 million financing will be used chiefly to cover cost of doubling plant capacity to 1.8 million bbls. With additional capacity expected to be in operation by the end of this year.

$3.5 Million Issue

These facts are disclosed in a prospectus covering a new issue of $3.5 million 4½% convertible sinking fund debentures, series A, being offered at par and accrued interest by a group headed by **W. C. Pitfield & Co.** The offering represents part of a $6 million issue of which $2.5 million was subscribed for privately.

Proceeds will be used in these ways: $5,220,000 to cover estimated cost of doubling plant capacity, (which includes repayment to an associated company of approximately $2 millions in temporary loans advanced to finance the portion of such cost already incurred) and the balance to general corporate purposes.

Dated July 15, 1956, the series A debentures mature July 15, 1976, and will be convertible into 6% participating preferred shares (non-callable and non-cumulative) of $10 par each in the capital stock of the company on the following basis: 28 shares per $500 debenture on or before July 15, 1959; thereafter 23 shares per $500 debenture on or before July 15, 1962, and thereafter 20 shares per $500 debenture on or before July 15, 1966.

Retiring Debentures

Sinking fund is calculated to retire $270,000 principal amount of debentures in each of the years 1958 to 1975, both inclusive, and to retire approximately 80% of the series "A" debentures prior to maturity.

They are redeemable at a premium of 4½% of principal on or before July 15, 1958, thereafter decreasing ¼ of 1% up to and including July 15, 1975, and thereafter and prior to maturity at principal amount in each case with accrued interest.

Decision to double manufacturing capacity, on which work is now well in hand, followed a careful survey of market possibilities. Plant will have cost approximately $12¾ million when new extension is completed or about $7.10 per barrel of installed annual capacity. This is said to compare very favorably with published cost of other cement plants recently built or now being built in Canada.

Net assets amount to $2,258 for each $1,000 principal amount of debentures to be outstanding upon completion of this financing. Based on selling prices and sales of cement, taking into account conservatively estimated sales from additional capacity now under construction, company is satisfied interest and sinking fund payments on issue will be adequately covered.

Upon completion of proposed financing, outstanding capitalization will include $6 millions of 4½% convertible sinking fund debentures, series A; 6,170,000 participating preferred shares of $10 par each; 2 million ordinary shares of $1 par.

PARMENTER & BULLOCH MFG. CO., Gananoque, Ont., net profit for the year ended April 30, 1956 was $120,411, 107% higher than net profit of $58,281 for previous year. Net sales amounted to $1,706,553 ($1,437,285 in previous year).

MANNESMANN TUBE COMPANY, LTD.
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AN OPEN LETTER TO THE PUBLIC:

SOON, OUR NEW AUTOMATIC SEAMLESS STEEL PIPE MILL, NOW NEARING COMPLETION AT SAULT STE. MARIE, ONTARIO, WILL BE IN PRODUCTION. DESIGNED PRIMARILY TO SERVE THE OIL INDUSTRY, ITS MAIN PRODUCTS WILL BE SEAMLESS OIL-WELL CASING AND LINE PIPE.

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ESTABLISHMENT OF THIS NEW MILL REFLECTS OUR FIRM CONFIDENCE IN THE FUTURE OF THE OIL INDUSTRY, AND OUR EARNEST DESIRE TO RENDER THE FINEST SERVICE. WE SHOULD BE HAPPY TO ASSIST YOU WITH YOUR 1957 PIPE REQUIREMENTS, AND IF THERE IS ANY WAY IN WHICH WE CAN BE OF ADDITIONAL SERVICE, THE MEMBERS OF OUR ORGANIZATION, AND I, PERSONALLY, WILL WELCOME YOUR SUGGESTIONS.

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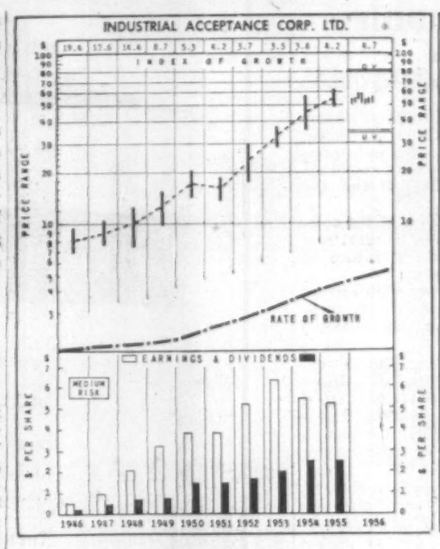
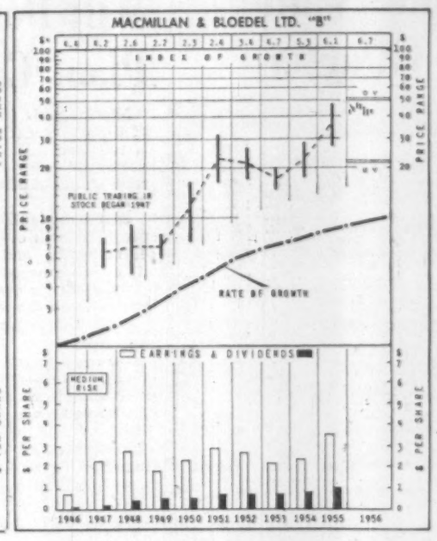
Selected Growth Stocks — Quarterly Review — By NESTOR

The Financial Post's exclusive series of Selected Growth Stocks was chosen by one of the continent's most prominent and successful investment advisers. The reasons for choice shown below the accompanying charts were those given when stocks were chosen in January 1953. Each will be reviewed quarterly. Publication of this series in The Post does not constitute a recommendation to buy these stocks.





INDUSTRIAL ACCEPTANCE — With Canada's population, wealth per capita, and utilization of consumer durable equipment still far from the saturation point, an attractive long-term outlook would seem present for companies financing installment paper. Industrial Acceptance, with branches throughout Canada, offers such credit on automobiles, aircraft, refrigerators, radios and other durable consumer goods. The company also engages in the insurance business, another expanding field. Company has an excellent growth rate, with earnings particularly rising during the postwar years.

MACMILLAN & BLOEDEL — One of the largest manufacturers in the world of timber products, including output of plywood and kraft pulp, MacMillan & Bloedel, with large timber reserves, low-cost transportation advantages, and aggressive, research-minded management, has excellent prospects for participating in the world-wide growth of its industry. Expansion now under way to be completed in 1957 will further boost production, including newsprint and kraft paper. Company's net worth has shown steady expansion, with postwar net per share appreciably above earlier years.

Ind. Acceptance

Industrial Acceptance Corp., at recent $57¾, trading 27.8% below OV level ($80), 65% above UV level ($35). Price is 11.1 times 1955 earnings of $5.22 a share. At indicated dividend of $2.50, yield is 4.33%. High so far in 1956, $59; low, $50.

Corporation's earnings linked closely to sale of automobiles, which have continud high this year. As a result, first four months' retail business was outstripping same period last year by more than 50%.

In late June, company increased interest rates on its secured notes, bringing them to highest level since finance company paper was introduced in Canada five years ago.

Increased rate was reflection of generally higher costs of its raw material — money. It also reflects greater demand for loans.

Rates went to 3½% for 30-89 day borrowing of IAC paper, 4% for 90-179 days, 4¼% for 180-365, and 4¼% for 270-365. Rates had been 3¼%, 3½%, 3¾% and 4% respectively.

Corporation recently received proceeds of $15 million issue of 5¼% sinking fund debentures, due June 1, 1975. Net tangible assets at March 31, after deducting all prior liabilities and the new issue, were $2,376 for each $1,000 of the new debentures outstanding.

Among IAC's six wholly owned subsidiaries, largest is **Niagara Finance Co.**, a consumer loan company with more than 100 branch offices. **Merit Insurance Co.** writes chiefly auto insurance with installment sales financed by IAC. Another insurance subsidiary is **Progressive Insurance Co. of Canada. Interprovincial Insurance Claims Ltd.**, adjusts claims of the two insurance subsidiaries. **Century Finance Corp.** provides financial assistance to IAC's dealer connections. **Premier Property Ltd.** owns and operates IAC's executive office building.

How To Read Stock Charts

INDEX OF GROWTH: The rate at which the value of the equity behind the stock is doubling as determined by the growth rate at which it entered the year. A figure of 5.6 for the present year would indicate that at its current growth rate the equity value is doubling every 5.6 years.

PRICE RANGE: The annual high, low and mean price. Monthly ranges for the current year.

UNDERVALUATION AND OVERVALUATION PRICE LEVELS: Shown by the narrow horizontal lines above and below the stock's price range indicating price at which the particular stock is adjudged as underestimating or overestimating its future rate of growth. A stock showing a fast-growth rate will sometimes anticipate growth by two or three years. In this case it may not be so attractive a purchase relatively as some other fast-growing stock that is not anticipating its growth beyond the immediate present. Other factors such as rate of growth and investment quality will also enter into the comparison an investor will want to make.

Without these UV and OV levels, a current quotation of say, 55 or 75 would carry no significance regarding long-range value. The UV/OV levels also permit judgment as between one stock and another. They are not designated points of purchase or sale nor do they attempt to show what will be a stock's bottom or top figure in any given year.

RATE OF GROWTH: the rate as based on Nestor's tests at which the company is showing underlying or long-term growth. This will determine the price trend of the company's common stock over a period of years and in most instances the trend of dividend payments.

**Background and principles behind the selection by Nestor were discussed in a special article in The Financial Post., Jan. 10, 1953. A limited number of reprints are available on request.*

MacM.-Bloedel

MacMillan & Bloedel B stock, at recent $44, selling 100% above UV level ($22), 12% below OV level ($50). Price is 12.3 times 1955 earnings of $3.57 a share. At indicated dividend of 80c (not including 20c extra paid in 1956 and 1955) yield is 1.82%. High so far in 1956, $48; low $40¼.

Earnings in first half of company's fiscal year, beginning Oct. 1, 1955, totaled $8.1 million or $1.53 a share, up 3% from $7.9 million or $1.49 a year earlier.

October - June earnings may show further improvement resulting from price increase, although bad weather curtailed B.C. logging operations this spring. Lumber markets so far in 1956 appear unsettled, but may pick up in coming months.

January-March quarter net earnings off 6% as result of depreciation on work in progress in expansion of **Alberni Pulp & Paper** division. Sales for this quarter up 2% at $45.3 million from $44.6 million in 1955. Six month sales, October-March rose to $84.6 million from $82.6 million.

Continuing its expansion, company recently announced plans to spend additional $1,125,000 on $42 million bleached kraft pulp mill at Harmac, B.S. This will provide a woodroom, to allow wider use of wood products. Cordwood is to be sold in Nanaimo and surrounding area.

Other phases of $63 million expansion program at Alberni division include installation of two high-speed newsprint machines, general purpose paperboard and coarse paper machines, increase in unbleached kraft production to 500 tons daily.

Europeans Pour Millions Into Nfld.

Big Share In $16 Million Issue To Finance Mills, Railway

MONTREAL (Staff) — A giant stride toward opening up vast new areas of ore-rich Labrador was taken here recently with completion of a $16.5 million bond issue.

The bonds of **Wabush Lake Railway Co.**, subsidiary of **Canadian Javelin Ltd.**, were issued to help finance construction of a townsite and mill near Lake Wabush, and a 37.3-mile railway line to carry ore out to the Quebec North Shore and Labrador Railway Co. When completed, the plants will have a daily capacity of 20,000 gross tons of iron ore.

The issue of $16.5 million in 4½% first mortgage sinking fund bonds, due 1976, of Wabush Lake Railway Co. and 231,000 no par shares in Canadian Javelin Ltd. is being sold by an investment syndicate headed by Stahl, Miles and Co., Edmonton, Alta. The issue is being sold in units comprising seven Javelin shares together with each $500 in principal amount of the bonds.

Price is $605 and accrued interest per unit.

President J. C. Doyle said that one sixth of the total offering is being sold in Canada. The remaining five sixths have already been sold; one sixth was privately placed in the U. S., the remainder placed in Europe, he added.

Javelin proposes to purchase and construct beneficiating and agglomerating plant and equipment, a townsite and other facilities in the vicinity of Lake Wabush. The plant will be built in four stages of two units each with a rated productive capacity per unit of 2,500 gross tons of iron ore per day in concentrates and agglomerates totaling, when completed, daily rated productive capacity of 20,000 gross tons of iron ore.

Cost is estimated at approximately $21.5 million to be financed partly out of funds now available, partly through credit terms available on purchase of the plant, partly out of proceeds of the issue of shares being currently offered and partly by an advance to be made by Wabush to Javelin out of the proceeds of the current bond offering.

Javelin proposes to let out contracts for mining of crude ore and its movement from the mine pits to adjacent plant to independent contractors who will furnish their own mining and moving equipment estimated to cost about $2.5 million.

Other highlights of the construction program, as outlined in the prospectus accompanying the issue are:

—Javelin proposes to acquire and make available to Wabush railway cars necessary for the carriage of iron ore. They will be financed substantially through equipment trust certificates.

—Wabush has begun to construct a 37.3-mile railway line from the mine site, connecting with mile 224 of the Quebec North Shore and Labrador Railway Co. It is expected this railway line will be completed in 1957 and total cost, including rolling stock not otherwise provided, will be in the vicinity of $6 million. Of this amount $500,000 has been expended to date. The Quebec North Shore and Labrador Railway Co. has made necessary installations at mile 224 on its right-of-way to connect the two railways.

—Docking facilities at Seven Islands, Que., will, if required, be constructed by Wabush at an estimated cost of $2,000,000 which would be financed in part from the proceeds of the issue of bonds currently being offered. Javelin owns waterfront lots at Seven Islands which could be used for this purpose.

—A townsite at the mine will be built by Javelin Realties Limited, a wholly-owned subsidiary of Javelin, and will be financed out of funds presently available for that purpose.

Javelin has made contracts with certain Ruhr steel companies for the sale of 1,968,393 gross tons of ore per year and has made a contract with the British Iron and Steel Corp. (Ore) Ltd., for sale of 1,000,000 gross tons of iron ore per year. The latter company has an option under its contracts to take an additional 1,000,000 gross tons of ore per year. The contracts are effective for a 15-year period commencing in 1957 in the case of the Ruhr steel companies and one year later in the case of British Iron and Steel Corp.

Based only on the present ore sales contracts of nearly 3 million gross tons, it is estimated the average annual profit will be $14,345,500 or $4.83 per gross ton. Were British Iron and Steel Corp. to exercise its option on the additional 1 million gross tons of ore, it is estimated the average annual profit would be $20.4 million or $5.14 per gross ton.

Operating at a capacity of six million gross tons, estimated average annual profit at existing contract prices would be $32.7 million or $5.45 per gross ton.

The estimates of profit include provision for administrative overhead, sales expense, depreciation, royalties, mineral tax and interest but do not include provision for prospecting, expiration, development expenses, depletion or taxes on income.

The 4½% Wabush bonds being offered are redeemable in part or in whole at 105 to July 14, 1961, which price decreases by ⅜ of 1% in each subsequent year.

A sinking fund to retire $550,000 principal amount of the bonds in each of the years 1961 to 1975 inclusive will be established.

Principal and interest on the bonds will be payable in Canadian dollars or on the option of the holder in U. S. dollars of equivalent value to Canadian dollars at time of payment. Maximum annual interest requirements will be $742,500 (Canadian, based on the current rate of exchange) which amount will decline progressively upon commencement of operation of the sinking fund in 1961.

After giving effect to the issue, capitalization will be as follows:

Javelin: No par value shares: authorized, 5 million; outstanding 4,485,000.

Wabush: 4½% first mortgage bonds: authorized and outstanding $16.5 million. Shares ($10 par): authorized, $2 million; outstanding, 173,048.

Now: Cars To Carry Us All

There's a motor vehicle in Canada for every four people.

That's the result of an 8.2% increase in the number of vehicles registered across the nation in 1955.

There's a passenger car for every 5.3 people.

Compare these figures with those for 1945, when there was a vehicle for every 8.1 and a car for every 10.4. Canada now has more than two and one-half times as many vehicles as in 1945.

Alberta has the greatest concentration in relation to population, followed by British Columbia, Saskatchewan and Ontario. Ontario has the highest ratio of cars to population, Saskatchewan is tops in trucks.

Every Canadian province increased its number of registrations last year. Biggest boost: Quebec, 10.9%; then British Columbia with 10.1%.

Among the nation's 16 million population, more than 3.5 million have drivers' licenses. And 1,224,017 chauffeurs' licenses were issued last year.

Ontario has almost half the registered trailers, Quebec and B. C. have most of the rest.

Ontario has about a third of the registered trucks and buses (the great majority in this group being trucks), the Prairie Provinces together have almost 30%.

The figures have been compiled and released by the Canadian Automobile Chamber of Commerce.

	Atlantic Provinces	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon & N.W.T.	CANADA
Passenger cars	210,312	542,315	1,292,133	163,198	166,864	236,395	303,481	2,741	2,917,439
Trucks, buses	78,642	168,688	313,399	56,653	105,543	118,795	99,797	2,305	943,822
Others	17,989	36,493	12,321	3,419	2,543	1,649	7,305	402	82,121
TOTAL, 1955	306,943	747,496	1,617,853	223,270	274,950	356,839	410,583	5,448	3,943,382
TOTAL, 1954	287,416	674,144	1,489,980	210,601	267,373	338,541	372,940	4,289	3,845,284
% increase 55/54	6.7	10.9	8.6	6.0	2.8	5.4	10.1	27	8.2
Persons per vehicle	5.7	6.0	3.2	3.8	3.2	3.0	3.2	5.1	4.0
Trailers	12,585	35,678	93,829	13,586	11,384	1,774	20,855	272	189,963
Drivers' licenses	338,525	589,538	1,148,980	216,378	331,613	365,145	521,853	4,708	3,516,740
Chauffeurs' licenses	32,407	326,902	706,755	41,449	*	57,671	57,044	1,789	1,224,017

* Included in drivers' licenses.

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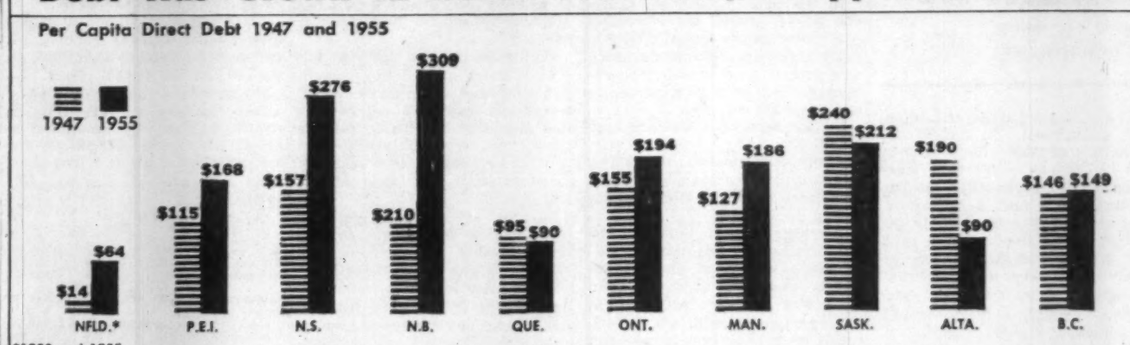
Debt Has Grown In Some Provinces, Dropped In Others

Per Capita Direct Debt 1947 and 1955



*1950 and 1955

Here's What The Provinces Owe

Under the new Federal - provincial tax agreements, the provinces stand to receive 20% more in 1957-58 than under the present formula.

But that money, say the provinces, will only tide them over. There's mounting pressure for large - scale provincial expansions, such as highways.

Tax money is only one side of the coin. What about provincial borrowing? Can the provinces find money, or are they already too deeply in debt?

Here's a look at trends in provincial debt.

Earlier this year, Canada's provinces outlined ambitious spending plans for coming years to the Gordon Commission. Billions would be needed, they said, for highways, education, welfare, utilities over the next two and one-half decades.

During the same months, provincial premiers were meeting off and on at Ottawa at their periodic federal-provincial fiscal conference seeking bigger cuts of the yearly federal tax take.

In both instances the provinces claimed that more money was required to provide services for which there was already need and for which there would soon be increasing pressure.

But at few times was much attention paid to the possibilities in greater provincial borrowing or the problems of existing provincial debt. Are the provinces getting too deply into debt? Will they be able to continue present rates of borrowing to help finance the services only governments can provide? Should they look more to borrowing than they have in the past?

Right now Canada's provinces are handling a debt load of $2.5 billions. Last year's total budget for all 10 provinces added up to about half that amount, $1.3 billion. The federal budget, excluding defense spending, just about equaled the provinces' debt outstanding. Federal debt is approximately $11.1 billions.

The provinces' $2.5 billions is direct debt, debt incurred by the provincial governments to finance their own operations. In addition, they are also responsible for another $1.5 billions. That's indirect debt, obligations of provincial government enterprises and local governments which have been guaranteed by the provinces.

In the eight years since 1947, total direct debt has risen 37.6% from $1,817 millions to an estimated $2,500 millions today. The rate of increase has been quickening: In the four years 1947-51 debt rose 10.3%; in the following four years, 22.5%.

Swift Rise of Debt

At the same time, the rise in indirect debt has accelerated more swiftly. In 1947 this was $220 millions. Today it is well over $1,500 millions, at least seven times larger. This type of debt doubled from 1947 to 1948, doubled again from 1948 to 1952 and then advanced almost 60% from 1952 to today.

From 1947 to 1948, total direct debt dropped. Reductions in the prairie provinces, Ontario and Quebec more than offset an increase in B. C. and substantial additions in the Maritime provinces. But between 1948 and 1955 figures published by the Citizens Research Institute show net direct debt has expanded at varying rates year by year.

In B. C. the debt load has fluctuated considerably, in Quebec remained fairly constant, and in Alberta the amount outstanding has been steadily reduced. In the other provinces the pattern has been one of increases in all or most years.

Meanwhile the net total of indirect debt has soared since 1947. In Ontario, this debt stands at $935 millions, eight times larger than in 1947. In Quebec indirect debt has increased four times over these years to total $385 millions. B. C. debt shot from $6 millions in 1947 to some $99 millions today. Newfoundland indirect debt rose from $5 millions in 1950 to almost $42 millions.

While the increase in indirect debt has been much more rapid than that of direct debt, provincial taxpayers and government officials are much less worried about it. The total $1.5 billion outstanding represents the provincially guaranteed borrowings of revenue-earning enterprises which are expected to pay for themselves, together with provincial support for municipal and school board borrowings which are essentially local obligations.

How serious is this load of debt? While the total is substantial and the rate of increase has been fairly rapid, there are several offsetting factors which indicate debt is not getting out of hand.

Canada's population increase has been one of the most rapid in the world. And with more people, larger debt obligations are easier to carry. Thus in spite of a 37.6% rise in total direct debt, per capita direct debt for citizens of all provinces averages an estimated $159.25, only 10% higher than 1947's $145.09.

But that is an average. The burden of per capita debt varies widely from province to province. On the whole it is largest in the so-called have-not provinces.

Here is per capita debt carried by the taxpayers of each province at Mar. 31, 1955, compared with their burden eight years earlier.

New Brunswick. Per capita debt $308.89, up 47% from 1947. Without exception, this province's per capita debt has been highest of any of the provinces in all the years since 1948.

Nova Scotia. Per capita debt $276.39, up 76% from 1947's $156.63.

Saskatchewan. Per capita debt is $212.15. Although third highest among the provinces, Saskatchewan's per capita debt is 11.7% lower than in 1947 when it had the highest per capita debt of any province.

Ontario. Per capita debt stands at $193.86, up 24% from the level of $155.45 in 1947.

Manitoba. $186.32 per capita, up 46% from $127.05 in 1947.

Prince Edward Island. Per capita $167.67, over 45% higher than eight years earlier.

British Columbia. $149.24, up 2.3% from 1947.

Quebec. Per capita $90.29, down 5.6% from 1947's $95.58.

Alberta. Per capita $89.90, less than half the total of $190.39 per capita outstanding in 1947, due primarily to oil royalties.

Newfoundland. Per capita $64.41, over four times larger than upon entering Confederation in 1950.

Like individuals, provinces go into debt to achieve some purpose. And like individuals, provinces have assets which secure loans and in some instances these are sufficiently liquid to be able to pay off obligations should the need arise.

Alberta provides an example of how instrumental disposable assets can be in paying off debt obligations. Oil and gas fees, licences, royalties, sales of leases have helped the Provincial Government reduce outstanding debt from 1947's $157 millions to less than $95 millions today and on a per capita basis to cut direct debt by almost 53%.

To get a better look at the real burden of taxpayers province by province, the Citizens Research Institute estimated net debt less (1) the province's cash and investments and (2) all so-called "realizable assets." The institute warns against accepting these as a literal comparison and stresses that they are estimates only, an artificial extension of the figures on total net direct debt.

Provincial Debt Outstanding Minus Cash and Realizable Assets

	$ millions
Nfld.	—30.4*
P. E. I.	16.6
N. S.	115.8
N. B.	108.7
Que.	256.9
Ont.	556.8
Man.	—47.9*
Sask.	23.9
Alta.	—224.0*
B. C.	15.0

*Surplus position.

The position of the provinces and their taxpayers is even more clearly outlined when net direct debt minus cash and investments and minus realizable assets is put on a per capita basis. Once again the institute emphasizes that these are estimates only and should be regarded as just an indication of the relative position of the 10 provinces.

Per Capita Provincial Debt Outstanding Minus Cash and Realizable Assets

	$
N. B.	194.81
N. S.	169.48
P. E. I.	153.70
Ont.	107.43
Que.	56.84
Sask.	26.88
B. C.	11.50
Man.	—56.44*
Nfld.	—73.71*
Alta.	—210.17*

*Surplus position.

To R. W. Bolstad, president, and Eric Hardy, director, of the Citizens Research Institute, the figures on net direct debt in relation to assets offsetting that debt suggest these points:

• The deadweight debt position of the three traditional Maritime Provinces is heavy and it has been increasing more than in other parts of Canada. Their current debt load constitutes an argument in favor of more realistic fiscal need payments to the poorer provinces by the Federal Government.

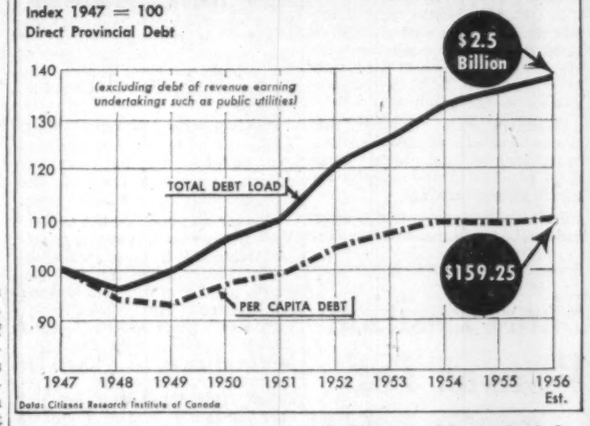
• Effective debt load of Ontario is surprisingly high. Amount outstanding today warrants greater public notice.

• Manitoba's position indicates that the province has followed a notably conservative policy in provincial financing and raises the question whether its Government is not in a position to expand expenditures in such areas as natural resource development and assistance to local governments.

The over-all increase in provincial direct debt cannot be labeled alarming, says the institute, although the necessity for significant increases in net debt might be queried. Times have been exceedingly good and the provinces' own revenues have been decidedly buoyant.

Federal - provincial tax agreements have permitted less flexibility in budgeting, it is pointed out, but the agreements have brought in large assured revenues. Inflation has also served to cut back the effective weight of debt outstanding, the institute notes.

Provinces' Dollar Debt Load Growing But It's Being Carried By More People



Data: Citizens Research Institute of Canada

World's Biggest Give-Away: $4,000 Million by the U.S.

Special Correspondence

WASHINGTON, D.C. — United States has gotten rid of more than $4,000 million worth of surpluses in the world market in the past three years.

Official government figures just released disclose this total. Most of the surpluses were tossed into the world market via Public Law 480 which authorizes sale of surpluses for special deals including barters, give-aways and acceptance of foreign currencies instead of dollars.

Canada has protested vigorously against the P.L. 480 special deals a. have other farm exporting countries, but to no avail. Ottawa has called the deals "unfair and unwholesome" but the U. S. has gone ahead with them feeling this was the way to help solve the surplus problem. There have been some recent second thoughts in Washington on this method of solution but so far these thoughts have not reached the operating level.

Wheat has been the biggest single commodity thrown into the world trade, and consequently Canada's number one export has been hurt in many instances.

In addition to the $4,000 million in surpluses already sent abroad, Congress is putting the finishing touches on an extension of P.L. 480 which will send overseas another $1,500 million in surpluses.

The President, in his semi-annual report on P.L. 480 says that close to $3,000 million has been sold, bartered or given away under the law. More than $1,000 million has been sold for foreign currencies instead of dollars under another law, the Mutual Security Act.

Taking both sales figures together, well over $2,500 million worth of surplus wheat, cotton, tobacco, corn and other surpluses has been sold for francs, yen, drachma or what-have-you instead of dollars. More than $900 million in surpluses has been given away to hungry people around the world or to special feeding programs such as the school lunch program in Japan. Finally, another $600 million in surpluses has been bartered, with the U. S. getting strategic materials in exchange for the wheat, cotton or corn.

On wheat alone, between $750 million and $1 billion worth has been sold, bartered or given away in the past three years.

$10 Million Lafarge Issue To Build B.C. Cement Plant

New financing totaling $10.1 million of **Lafarge Cement of North America Ltd.**, Vancouver, have been sold by **Dominion Securities Corp.**, Toronto, **Tanner & Co.**, Calgary, and **Pemberton Securities Ltd.**, Vancouver.

Offering consists of $3 million 5¾% sinking fund debentures, due July, 1976 (with bonus of 10 common shares per $1,000 bond) at 99; $3.6 million 5½% first mortgage sinking fund bonds Series A, due July, 1976 at par; and $3.5 million Class A non-cumulative participating-dividend redeemable shares, $10 par (bonus of one common for each five A shares) at par.

Lafarge France (Société Anonyme des Chaux et Ciments de Lafarge et du Teil) Paris, France, the parent firm, has purchased all the outstanding $3,950,000 common shares, no par.

Company will use proceeds from this financing and the common issue to build a $14 million cement plant on Lulu Island, outside Vancouver, where it has acquired a 50-acre site.

Initial capacity will be 1,260,000 barrels annually. Construction is designed to allow doubling of capacity at an estimated cost of $3.1 million.

The two bond issues and the two stock issues will represent the company's outstanding capitalization.

Company was incorporated in April, 1956. Earlier in year it acquired all the outstanding shares of **Beale Quarries Ltd.**, which owns substantial limestone reserves on Texada Island, B.C. Beale's had a net loss of $5,963 for the two months ended May 31, 1956. Net loss for the year ended March 31, 1956, was $6,145, compared with net profit of $2,839 for previous year.

Parent company is one of the world's largest cement manufacturers. It has 26 plants in operation and two more under construction giving an aggregate of 30 million Canadian bbl. A British subsidiary manufactures and markets Lafarge Aluminous cement in England.

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Market Comment

What stocks and bonds are doing and what prominent observers say

Troubles in the Middle East over the Suez Canal unsettled stock markets this week, but the Canadian oil stocks bounced ahead as investors foresaw greater reliance on North American oil supplies in future.

Other standouts on the upside were the nickel stocks which reacted favorably to news that the U. S. Government would lend new support to boost nickel production.

* * *

DOMINION SECURITIES CORP. (Toronto)

The Canadian stock exchanges demonstrated remarkable strength in July and made better advances than New York. Toronto Stock Exchange industrial index moved from 465.83 at the end of June to 493.92 on July 27, or up 6.03%. New York's comparable advance was 3.96%. A feature of recent markets has been the disappearance of the heavy speculation that was general in the first few months and the good gains made by senior issues.

Markets have tended to react to good news like President Eisenhower's reaffirmation to stand for election and to disregard unfavorable developments such as the U. S. steel strike.

The April-June market shakeout was overdue and now appears to have been a sharp technical correction. Credit is still tight in the light of strong inflationary stresses. With the general price level tending upwards, there appears to be a growing demand for the better grade equities as a hedge against the declining purchasing power of the dollar.

The U. S. steel strike settlement will undoubtedly be inflationary in nature and the effects will be felt in Canada. Past experience indicates a probability of increased prices and inventory replenishment. The result will also probably be a slowing up of capital expenditures which are already at a very high rate and spreading them over a longer period. Industry earnings should be generally higher in 1956.

There is little in the Canadian economy to cause pessimism. Employment, housing, carloadings and bank deposits are all up over last year by good margins. Motor vehicle production in Canada has been holding at about the same levels as in 1955. Farm income is up 11% due to increased prices and larger grain shipments.

Against this favorable economic background we expect firm but more selective markets.

In selecting stocks, senior oils and those juniors with properties in new discovery areas and the pipelines should reflect the steady growth both in the U. S. and Canada for refined products.

Canadian steel producers and fabricators are expanding their capacities and spending large sums which will undoubtedly result in higher earnings.

Pulp and paper companies seem assured of ready markets for their increasing production and this group looks favorable for long-term growth.

In the base metals, aluminum and nickel stocks are attractive and copper prices should probably settle around present levels which will permit good profits for producing mines with good grade ore and adequate reserves.

Stocks dependent on increased population and expanding purchasing power such as banks, public utilities, finance companies and food stuffs should register steady growth.

We suggest that portfolios be strengthened at this time by eliminating shares of those companies whose growth has not been impressive or are inefficient in their particular field, and substituting truly long term growth and income stocks.

* * *

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Owing to its preponderant position economically and financially, the U. S. market continues to be the dominating force so far as Canadian stock exchanges are concerned.

This is inevitably true, even though 80% of the development capital invested in Canadian companies over the past year has been found from domestic sources. It also remains primary in spite of the rapidly growing British and European interest in Canadian securities.

Consequently, if we are to anticipate the likely pattern of Canadian equities over the next few months, it is essential to study the U. S. economy in an election year.

The current bull market in New York followed a late spring quietness resulting from uncertainties about the economic trend in the fourth quarter of this year and the first quarter of 1957. Subsequently, President Eisenhower's second illness combined with the prospect of a steel strike to add to the uncertainties. The recent rise resulted from the belief that not only the fourth quarter would be good, but also that 1956 is likely to be a profitable year, with Eisenhower still the President, and settlement of the steel strike has bolstered this position.

Although historical comparisons are often unreliable, it is nonetheless interesting to compare the recent market activity with that of 1952, the last American presidential election year. Then there was a 54-day steel strike which lasted from early June till July 26. The New York stock market reached a "low" about a month before the strike, advanced to a peak level about a fortnight after settlement of the strike, declined to another low in mid-September and then rallied till the end of the year.

So far the pattern this year has been similar and if the present rise continues for another week, one might expect a comparable late summer set-back with a steady revival as the presidential election approaches, provided that Eisenhower is still expected to win.

In view of the foregoing and remembering that stock markets are delicately poised at current high levels, it is worth noting that adverse developments like the Suez Canal seizure and possible side-effects are likely to have a greater relative influence on markets than will news of a bullish character. Favorable aspects are always discounted into the future, whereas the reverse is less frequently true.

Consequently, the prospect of serious trouble in the Middle East could in the next few weeks accentuate a trend toward lower prices, which one might expect after a considerable mid-summer rise, although it is likely that, owing partly to the Middle East uncertainties, there will be continuing interest in Canadian oil shares. Generally speaking, investors might be wise to retain a fair proportion of assets in cash reserves in order to await attractive buying opportunities and special situations.

Short Position Rises on TSE

Semimonthly report of short positions of the Toronto Stock Exchange at July 13, eliminating odd lots on members' books, aggregated 820,272 shares of 190 issues, compared with 746,051 shares of 189 issues on June 29.

Among the changes were:

Stock	Shares	Stock	Shares
Barvue wts	+32,002	MacM. Bl. B	+350
B.A. Oil	+2,170	Massey-H.-Ferg.	+1,100
CPR	+795	Nat. Sil.	—325
Int. Nickel	—215	Silanco	+11,500
Joliet Que.	+50,000	Silver-Mill	—11,250
Kirk. Hud.	+10,000		
Kroy	—14,800		

Here are the short positions in detail:

Stock	Shares	Stock	Shares
Abitibi	200	Joliet Que.	85,700
Algom	2,850	Kerr-Add.	800
Amanda	300	Kirk. Hud.	12,000
Amer. Leduc	5,700	Kroy	19,900
Am. Neph.	300	Lk. Dufault	19,400
Anacon	300	Lake Nordic	3,900
Anglo-Rouyn	700	Leitch	500
Asbestos	200	Lencourt	2,000
Ascot	2,000	Lexindin	1,000
Ash Temple	50	Liberal Pete.	3,700
Atlas Steel	125	Loblaw A	100
Aubelle	2,000	L. L. Lac	2,800
Aumaque	2,500	Lorado	800
Bailey-Selb.	4,500	Lomega	1,500
Banff	3,400	Lyndhurst	2,500
Barvue	1,200	Mackeno	500
Do. wts.	60,280	Massey-Harr.	3,600
Base Metals	3,000	MacMillan B	750
Beattie Duq.	65,400	Maralgo	1,000
Belcher	4,100	Maritimes	200
Bell Phone	350	Martin McN.	500
Bicroft	500	Maybrun	12,100
Black Bay	400	Meta	3,000
Bidcop	500	Midrim	8,700
Bouzan	1,100	Mill City	500
Briland	2,000	Milliken	6,700
B.A. Oil	2,270	Mng. End.	1,000
Brunhurst	1,000	Nat. Pete.	400
Brunsman	500	Nat. Steel	200
Brunswick	50	Nesbitt	3,100
Buffalo Cdn.	1,000	N. Bristol	2,000
Can. Southern	100	N. Delhi	400
Cdn. Breweries	25	N. Goldvue	500
Cdn. Devonian	100	N. Highridge	2,300
CPR	795	N. Jaculet	5,700
Cdn. Petrof. pr.	50	N. Jason	11,000
Can-Met	300	N. Manitoba	3,000
Can-Erin	100	N. Thurbois	1,500
Cent. Leduc	1,200	Nickel Rim	3,000
Cent. Pat.	200	Nisto	1,500
Centremaque	500	Noranda	750
Chem. Res.	7,400	Norpax	9,500
Chib. Expl.	300	N. Cdn. Oils	900
Coin Lake	500	Northland	300
Coldstream	200	Northspan	1,300
Colomac	500	Norvalie	1,000
Con. B'keno	10,300	Ogama	16,000
Con. Denison	2,000	Oil Select	1,000
Do. wts.	3,300	Omnitrans	1,000
Cassiar	2,000	Ont. Jockey	3,900
Con. Halliw.	5,700	Opemiska	5,700
Con. Howey	8,000	Pac. East.	4,500
Con. Mic Mac	2,800	Panel	1,300
Con. Smelters	100	Pathfinder	2,400
Con. Nicholas	2,000	Paymaster	500
Con. N'land	1,500	Petrol O.	100
Con. Paper	50	Pickle Crow	300
Con. Tung.	3,500	Pitch Ore	2,000
Coppercorp	4,500	Powell River	50
Coppercrest	500	Provo	200
Corby vot.	300	Purdy Mica	2,000
Coulee	300	Que. Chib.	17,400
Cusco	1,000	Que. Labrad.	3,000
D'Aragon	5,500	Quemont	1,000
Del Rio	800	Rare Earth	18,300
Dom. Stores	50	Rayrock	1,700
Dom. Tar	1,000	Rio Rupununi	835
Donalda	500	St. Michael	500
Duvan	8,300	Sand River	1,000
Dyno	1,000	Sapphire	600
East. Mng.	1,066	Sherritt	4,700
El Pen-Rey	86,400	Silanco	12,500
Eureka	2,000	Silver Mill	2,250
Expl. Alliance	300	Starratt O.	1,000
Falconbridge	75	Steeloy	2,000
Faraday	700	Steep Rock	4,875
Francoeur	500	Sturgeon	5,000
Frobisher	300	Teck-Hughes	100
Glenn Ur.	5,000	Temagami	900
Gt. Lakes	300	Thompson L.	2,800
Gt. Sw. Grass	6,300	Tr. Can. Expl.	100
Greyhawk	1,500	Trans Prairie	400
Gunnar	500	Triad	1,000
Harrison	900	Un. Asbestos	41,800
Hd. of Lakes	1,000	Un. Keno	1,300
Headway	4,900	Ventures	25
Heath	1,500	Vico	14,700
Highwood	500	ViolaMac	3,500
Imp. Oil	2,554	Walker G.&W.	300
Indian Lake	5,300	Wespac	500
Inglis	3,000	West. Naco	100
Int. Nickel	915	Weston A	40
Iron Bay	100	Do. B	90
Jaye	1,900	Zenmac	10,000
Jeanette	6,642		
Joburke	1,000	Total	820,272

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In August Reader's Digest a leading executive tells you what these two golden assets are, and how to awaken them within you. Get your August Reader's Digest today: 39 articles of lasting interest including the best from leading magazines and books, condensed to save your time.

P.O. for M.P.'S

If you have written your local Member lately, your letter found its way to the new aluminum mail box recently installed in the Parliament Buildings, Ottawa. With their attractively bevelled and sanded doors, these lock boxes look handsomely at home in the vaulted corridors of the Centre Block.

Imagination boggles at the tonnage of praise and blame that will flow through these boxes in years to come, to M.P.'s and Senators yet unborn. Meanwhile we find it fitting that a metal that has become such a vital part of the nation's economy should grace the nation's legislative halls.

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CPR June Earnings Up $1.4 Million

MONTREAL (Staff) — **Canadian Pacific Railway** reports net earnings for June at $4,482,805, an increase of $1,468,439 from the same month of the previous year.

Net earnings for the first six months of this year amounted to $15,470,376 against $12,588,419 for a like period of the previous year.

Its statement of earnings follows:

	Month of June 1956	1955	
	$	$	$
Rly. rev.	43,679,905	39,704,796	+3,975,109
Rly exp.	39,197,100	36,690,430	+2,506,670
Net earns.	4,482,805	3,014,366	+1,468,439
	6 Mos. Ended June 30		
Rly. rev.	243,874,499	215,360,37	+27,514,121
Rly. exp.	227,404,123	202,771,959	+24,632,164
Net earn.	15,470,376	12,588,419	+2,881,957

McColl-Frontenac Net Climbs 33%

McColl-Frontenac Oil Co. Montreal, estimates consolidated net profit of $5,378,738 for the half year ended June 30, 1956, a 32.7% rise over net profit of $4,052,214 for the comparable period of 1955. Half-year earnings per share rose to $2.02 ($1.51 in earlier period) based on shares outstanding.

Estimated net profit for quarter ended June 30 rose 57.9% to $2,671,734 ($1,692,482) and earnings per share rose to $1.01 (63c).

Unlisted Mines and Oils

(Compiled from Quotations by G. E. Leslie, & Co., Montreal)

July 30, 1956

Stock	Bid	Of'r	Stock	Bid	Of'r
Abeta	11	14	Miller Cop	32	36
Aconic	4.50	5.00	Nat. Mal	9	12
Adnor	3	5	New Lorie	12	15
Bald Mtn	30	35	New Mal	2	4
Belmont	7	10	New Augur	5	7
Bluegrass	9	11	New Pen	5	7
Bornite	43	48	Nipiron	25	30
Brsnan Ch	50	60	Norbeau	85	1.00
Cdn Jav	194	20	Normiska	39	43
Cent Ming	50	..	Oklend	6	9
Clinger	5	10	Ont Nick n	34	37
Cont Cop	36	42	Montgom	4	6
Cop Val	40	45	Orefield	40	45
Dawmac	..	1.15	Ormonte	..	35
Derogan	4	6	Pascalis	10	15
Enterprises	45	50	Pennbec	48	53
Flicka	9	12	Pwr Uran	.	12
Flu Bar	1.00	1.20	Provincial	2	4
Garland	10	20	Quedon	15	20
Glencona	6¢	7¢	Quejo	15	18
Goldmaq	7	9	Rand Mal	5	7
Imp Min'ls	10	13	Red Diam	88	92
Independ	15	20	Roymont	10	20
Inter Asb	5	10	St Lawr	50	70
Intr Lith	1.00	1.25	St. Jude	24	29
Kamlac	8	11	Scott Chib	10	14
Kenmac	17	20	Selby Mng	47	53
King Cop	10	20	Sharbot	50	55
Lake Ch	44	47	Sth Bach	15	20
Lassie	5	8	Suzor	30	35
Lun-Echo	72	78	Starlight	10	14
Lynivue	37	42	Titanium	85	1.00
Main Ok	21	26	Wesley	13	15
Mid Chib	58	63	Wm Leys	20	24
			Yng Dave	20	24

ANNOUNCEMENT

T. BRUCE FALLOWS

who has been appointed Vice-President in charge of Sales of The Great Lakes Paper Company, Limited. Until this appointment, Mr. Fallows was Assistant to the President of the Company and previously had been associated with the Canadian newsprint industry in numerous capacities.

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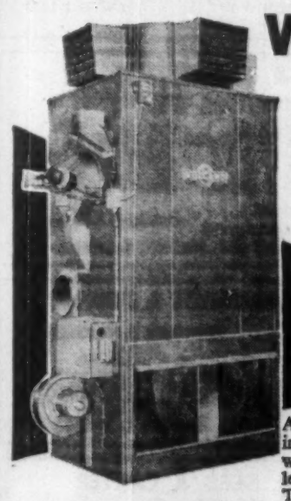

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NO RADIATORS
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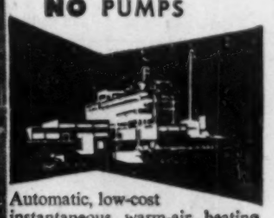
NO PUMPS



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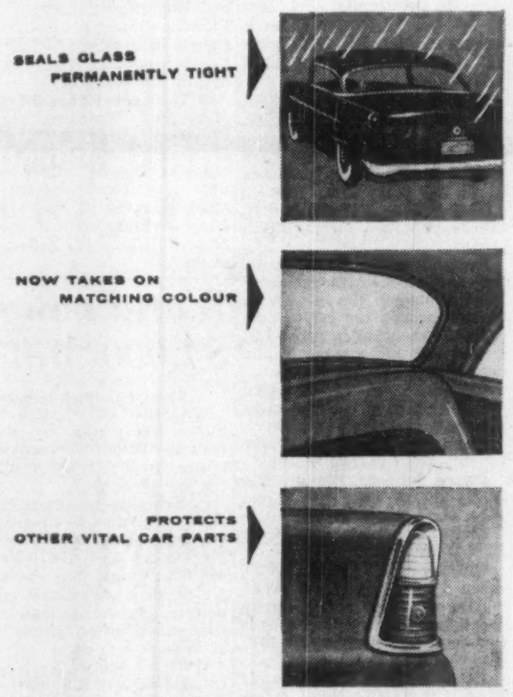

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DIVIDEND NOTICES

THE ROYAL BANK OF CANADA

Dividend No. 276

Notice is hereby given that a dividend at the rate of FORTY-FIVE CENTS per share upon the outstanding capital stock of this bank has been declared for the current quarter payable at the bank and its branches on and after SATURDAY, THE 1ST DAY OF SEPTEMBER 1956, to shareholders of record at the close of business on the 31ST DAY OF JULY, 1956; shares not fully paid for by the 31ST DAY OF JULY, 1956 to rank for the purpose of the said dividend to the extent of the payments made on or before that date on the said shares respectively.

By Order of the Board,
K. M. SEDGEWICK,
General Manager

Montreal, July 16, 1956.

UNITED KENO HILL MINES LIMITED

United Keno Hill Mines Limited has announced the declaration of an interim dividend of ten cents per share and an extra dividend of 5c per share payable in Canadian Funds on August 27th, 1956, to shareholders of record at the close of business on July 27, 1956.

C. F. ELLIOTT,
Secretary-Treasurer.

Toronto, Ontario,
July 16, 1956.

D. A. STUART OIL CO. LIMITED

DIVIDEND NO. 13

and

EXTIA DIVIDEND

Notice is hereby given that a quarterly dividend of twenty-five (25c) Cents a share, and an extra dividend of Twenty-five (25c) Cats a share have been declared on the outstanding capital stock of this company and will be paid in Canadian funds on September 1st, 1956, to shareholders of record at the close of business, August 16th, 1956.

By Order of the Board,
H. W. SALTHOUSE,
Assistant Secretary-Treasurer.

Toronto, Ontario, July 25th, 1956.

VIRGINIA DARE LIMITED

DIVIDEND NOTICE
PREFERENCE SHARES

A Divlend of thirty-one and one-quarter cents (31¼c) per share on the 5% Cumulative Redeemable Preference Shares of the Company has been declared for the three months ending September 1, 1956, payabl on September 1, 1956, to Shareholders of record on August 14, 1956.

By Order of the Board.
G. I. TAYLOR,
Secretary.

Toronto, Ontario,
July 24, 1956.

INTERPROVINCIAL BUILDING CREDITS, LTD.

COMMON DIVIDEND NO. 16

NOTICE is hereby given that a dividend of 25c per share has been declared on the Common Shares of the Company in respect of the quarterly period ending August 31, 1956, payable on August 31, 1956 to shareholders of record at the close of business on August 15, 1956.

By Order of the Board.
MAURICE B. DIX,
General Manager

REEVES MACDONALD MINES LIMITED

NOTICE OF DIVIDEND NO. 3

Notice is hereby given that an interim Dividend of Twelve and one-half cents (12½c) per share has been declared on the paid-up Capital Stock of the Company, payable on the 30th day of August 1956, to shareholders of record at the close of business on the 10th day of August 1956.

By Order of the Board.
J. WHITEHOUSE,
Secretary.

Vancouver, B.C.,
July 24th, 1956.

KERR-ADDISON GOLD MINES LIMITED

(No Personal Liability)

INTERIM DIVIDEND NO. 83

Notice is hereby given that an interim dividend of twenty cents per share has been declared on the issued capital stock of the company, payable in Canadian funds on Thursday, September 27th, 1956, to shareholders of record at the close of business on Friday, August 31st, 1956.

By Order of the Board.
G. A. CAVIN,
Secretary.

Toronto, Ontario,
July 24th, 1956.

HENRY MORGAN & CO. LIMITED

DIVIDEND NOTICE

The Board of Directors today declared the following dividends for the quarterly period ending August 31st, 1956.

4¾% PREFERRED STOCK — A dividend of $1.19 per share payable September 1st, 1956, to shareholders of record at the close of business on August 6th, 1956.

COMMOI STOCK—A dividend of 18¾ cents per share, payable September 1st, 1956, to shareholders of record at the close of business on August 7th, 1956.

E. W. ROWAT,
Assistant Secretary.

July 24th, 1956.

Bank Staff Changes

Royal:

P. F. HOSKINS, manager, Nelson, B.C., to be manager, Renfrew & 1st, Vancouver.

W. FRAZER, acting manager, Oliver, B.C., to be manager, Whalley, B.C.

A. J. TULLOCH, accountant, Glenboro, Man., to be acting manager, Snow Lake, Man.

J. R. M. GAUCHER, Chicoutimi, Que., to be accountant, St. Sauveur, Quebec, Que.

R. A. DOBSON, appointed accountant at Westgate Shopping Centre, Ottawa.

F. A. BAKER, Brantford, Ont., to be accountant, Otterville, Ont.

C. R. DUNLEAVY, Owen Sound, Ont., to be accountant, Quirke Lake, Ont.

A. H. PETERS, supervisor's dept., Vancouver, to be accountant, Prince George, B.C.

D. J. SWINTON, accountant, Otterville, Ont., to be accountant, Fergus, Ont.

H. J. DICK, accountant, Montreal Airport, to be accountant, Windsor Hotel, Montreal.

D. D. SHEEN, assistant accountant, Montreal Airport, to be accountant.

S. C. PRICKETT, Leaside, Toronto, to be accountant, Hamilton Road & Rectory, London, Ont.

D. BOURGEOIS of Ste. Rose du Lac, Man., retired.

INTERPROVINCIAL PIPE LINE COMPANY

Notice to Shareholders

DIVIDEND No. 9

NOTICE is hereby given that a semi-annual dividend of sixty cents per share in Canadian funds has been declared on the outstanding Capital Stock of Interprovincial Pipe Line Company, payable on September 1, 1956 to Shareholders of record at the close of business on August 17, 1956.

By Order of the Board,
Toronto, W. A. HARE,
July 20, 1956. Secretary.

Market Bid and Ask Quotations

Montreal and Toronto Closing Quotations

July 31, 1956

	Bid	Ask
xAbbican	55	58
Abitibi	41¼	41½
Do pr	24½	...
Acad-Atl	10½	10¾
Do A	22	22½
Do pr	99½	100
xAcad Ur	13½	15
xAcme G	18	20
Admiral	17¼	17½
xAdvcate	500	515
Agnew-S	7¼	7½
Do pr	8½	10
xAjax	76	79
xAktcho	45	49
xAlba Ex	28	30
xAlta Dst	165	170
Do vt	140	150
xAP Cons	60	62
Algom	15½	16
Do vt	...	...
Do deb	95	96½
Do wts	675	700
Algoma	122½	123
Almnum	141	...
Do 1 pr	25	25½
Do 2 pr	50½	...
xAm-Lar	21½	22
xAM Led	118	120
xAm Nep	231	240
xAmurex	675	685
xAnacon	262	270
xAnchor	19	20
Ang-Am E	15½	15½
Ang C P	p32½	32½
Ang-C Tel	44½	45½
Ang Hur	12	13½
xAng Rn	147	150
Anth Imp	25	27
xApex R	18	18½
xArcadia	228	230
xArcan	35	40
xArea	44	50
Argus	21½	22½
Do 2.40 p	54	55
Do 2.50 p	46	46
xArjon	28	29
xAscot	19½	20½
Ashdwn B	13½	14
xAsh Tpl	400	475
Do A	99½	...
Do B	9	10½
Atlan Acc	6½	6½
Do pr	16	18
Atlas Steel	29½	29½
xAtlas Yk	16	17
xAtlin-Ruf	18½	19
xAubelle	13	14
xAumacho	38½	39
xAumaque	19	20
xAunor	215	220
Auto Elec	14½	...
Do A	10	...
Auto F A	6	6½
Do B	250	300
xAviabona	11½	12
xBaganac	9	9½
Bly Sel A	16½	17
Do pr	34½	35
xBanff	300	305
xBankeno	34	35½
xBnkfield	11	12½
Bnk Mont	58½	59½
Bnk NS	61	61½
Do rts	460	470
Ban Cdne	46	...
Barb-Ellis	40	...
Do pr	19½	...
Barcelona	...	6½
xBarnat	62	64
xBarvue	103	104
xBarymin	245	250
xB Metals	88	90
xBaska	28	29
xBata	14	15
Ba Innes	...	9½
Ba Pwr A	63	65
Do B	43¾	44
xB-Duq	210	215
Beatty	7	7¼
xBeaucge	235	238
xB Lodge	42	50
Beav Lum	19	19½
Do A	21	22
Do pr	33	...
xBelcher	305	310
Bell Phone	48	48½
xBelterre	205	234
xBerens	33	35
xBibis	10½	11
xBicroft	253	263
Do wts	100	110
xBidcop	105	107
Biltmore	5½	7
Do pr	12½	13
xBlk Bay	70	75
Blue Rib	9	10
Do pr	35½	40
xBonville	9	10
xBordulac	20	22
xBouscad	18	19
xBouzan	238	242
Bwtr Corp	...	50
Bowes	18	...
xBoymar	10½	11
xBralorne	460	475
xBrisman	100	114
Br Crd A	18	18½
Do B	10	12
Brazil	7¼	7¾
Do pr	96	93
Br Tk pr	33½	34
Do wts	300	500
Bright	12½	15½
Do pr	19	19½
xBritlund	110	111
xBritalta	296	298
BA Oil	49	49½
BCE 4 pp	...	88
Do 4½pp	47	47
Do 4½ pp	...	48½
Do 4½ pp	98½	100
Do 5 pp	52	53½
Bc Forest	17	17¼
Bc Pk A	16	16
Do B	15	15
BC Pow	46½	46¾
BC Phone	48¼	48¼
xBr Reef	139	140
Bruck A	9½	9¾
Do B	350	400
xBrunhurst	9½	10
xBrnsman	11½	12
Brunston	21	21½
Brunswick	11½	12
xBufadson	01	12
xBuf Ank	72	76
xBuf Cdn	15½	16½
xBuff RL	8½	9
Build Prod	37	38
xBulldog	12	13
Bullochs A	...	7½
Do B	5	6
xBnkr Hill	15½	18
xBurchell	55	58
Burlington	27½	30
Burns	12½	13
Burrard A	8½	8¾
xCla Pete	135	140
Cdwl 1 pr	21½	24½
Do 2 pr	12	13
Cal Ed	27½	27¾
Cal Pow	64	65
Do 5 pp	104	...
xCallinan	18½	20
xCalnorth	37	38
xCal Con	540	555
Camp Chib	18½	19½
xCamp RL	575	590
xCan Brd	290	325
Do B	50	54
Can Cem	34½	34½
Do pr	29	29½
CCC Stone	8	8½
Can Folls	10½	13½
Do A	14½	15½
C Fndry A	27½	30
Do Com	15	16
Cl Fndry	222	225
Do 4½	106	...
Can Life	155	168
Can Mach	10	12
Can Malt	58	59½
Do pr	23½	25
xC Oil Ld	300	310
Do wts	190	200
C Pack A	39	40
Do B	34	36½
Can Perm	91½	94
C Sf 4 pp	100	100
xCS O wts	80	120
xCS Pete	430	435
CSL	27½	30
Do pr	12½	12½
C Wre B n	22½	24
xC Ad Oil	55	62
xCdn Ast	39	40
xC At Oil	815	820
Cdn Baks	5½	6½
C Bk Com	56½	56½
Cdn Brew	29½	29½
Do pr	29½	30
xC B Emp	61	62
Cdn Can	40½	41½
Cdn Celan	15½	16½
Do $1 pr	18	20
Do 1.75pr	30½	30½
C Ch Celi	9½	9½
C Collieries	9½	10
Do pr	93	95
Cdn Con	...	400
xC Dia wts	55	65
xC Dev P	840	845
C Dredge	21½	22
xC Ex Gs	650	660
C Fbnks	...	28
Do pr	125	...
En & Htg	5	...
Equit Life	49	54
Erie A	62	...
Do B	265	...
Estbks pr	18½	20½
xEureka	142	143
xExcelsior	90	100
Ex Allnce	125	126
Falcnbrdge	42½	43
Fam. Play	16	16½
Fanny F	22½	23
xFaraday	151	155
Do wts	60	65
xFargo	310	315
xF'w Tung	26	30
Fed Fire	53	...
Fed Grn	30	31
Do pr	...	27½
xFed Kirk	41½	42
xFibre	400	...
Do pr	350	600
Fittings	7½	8
Do A	11	12
Flash F pr	10	...
xFleet Mg	120	125
Ford	58½	59
Do A	126	129
Do B	123	...
Foundtn	24½	24½
xFrncoeur	19	20
Fraser	40½	40¾
Fremn pr	92	95
xFrobshr	430	440
Do debs	85½	89
xGaitwin	28	30
Gatineau	28	28½
Do 5% p	109	110
Do 5ipp	110½	115½
Geco Mine	20½	20½
Gen Bake	5½	6
Gen Dyam	72½	72½
GMC	46	46½
Gen Steel	560	590
Do A	515	550
GP Mfg A	38	40
Do B	42	...
GS Wares	8½	9
Do pr	90	93
xGenex	35	36
xG Scien	170	185
xGnt YK	585	590
xGl Uran	104	105
xGoldale	27	29
xGoldcrest	23	25
xG Eagle	10½	11
xGold M	280	290
xGF Uran	28	31½
Goodyear	144½	147½
Do pr	48½	49
G Pumps	...	16
G Mcky A	8½	8½
Do B	8½	8½
xGrah Bsq	24	25
Granby	13	14½
Gr Toy	33½	40
xGrndines	30	31
xGrandoro	50	58
xGranduc	670	690
GL Paper	50	50½
GN Gas	7	7½
Do pr	...	44½
Gr Pl Dev	50	51
xGr Sw G	345	350
GW Coal A	9½	10½
Do B	9½	10
Gt. West	...	20
Greening	5	5½
xGryhawk	47	48
xGridoil	11½	12
Guar Tr	22	22½
xGulch	40	42
xGulf Led	14½	15
Gunnar	17	17½
Do wts	875	890
xGurney	305	500
Do pr	22	22½
Gpsm new	37	37½
Hahn	20½	22
Do A	15	16½
xHallnor	325	350
H Cotton	14	17
Do pr	98	...
Har Carpet	8½	8½
xH Rock	15	16
Har-Min	55	58
Hartz A	8½	10
xHasaga	15	16
xH of L	13½	14½
xHeadwy	125	130
xHeath	28½	29
xHees	365	400
Hdsht new	28½	29
Do wt	23	25
Do rts	75	175
xHeva	9	9½
xH Crest	38	39
xHigh-Bell	95	97
xHghwood	40	42
H Dauch	48½	50
Hi-Tower	9½	10
xHlden A	275	300
xHolden B	...	160
Hollinger	28½	28½
H Oil A	13½	14
Do B	13½	13½
H Smith	46	49
Do pr	...	97
xHoyle	795	800
Hud Bay	95½	96
xHugh-P	37	39
Hghs O A	15½	16
Do B	11½	...
Do pr	25½	...
Hur Erie	37	39
xHusky	10	10½
Do wts	430	470
Imp Bnk	61½	64
Imp Fl Gl	26	28½
Imp Life	66	68
Imp Oil	58½	58½
Imp Tob	12	12½
Do pr	61	61
xInd Lake	20	21
Ind Accep	59	59½
Do 4.50 p	97	100
Do 2.25 p	48½	49
Ingseroll A	7½	7½
Inglis	16½	16½
Inlnd C pr	17½	17½
xInsprton	117	125
Int Bronze	12	12½
Do pr	23½	24½
I Met A	42	42½
Do pr	...	101½
Int Mi pr	92	...
Int Nickl	104	104½
Do pr	127	128
Do $5 pfd	61	61
Int Pete	38½	39
Int Pwr	273	280
xInt Ran	60	70
Int Util	...	54½
Intprv BC	14	14
Intprv PL	44½	44½
xIrish Cp	285	289
xIron Bay	340	360
xIsotope	180	190
xJ Waite	24½	27
xJacobus	30	31
Jam Pub	28	29
Jam P.S.	106	...
xJ ay Ex	114	115
xJeanette	59	60
xJellicoe	20	20½
xJoburke	24	25
Johns-M	54½	54½
xJoliet	118	120
xJonsmith	29	29½
Journ Ott	10½	...
xJowsey	117	119
xJupiter	240	245
Kelvinator	10	11½
xKenville	8½	9
Kerr Add	20	20½
xKerr L	40	70
xKeybycon	9	10
xKeymet	55	60
xKilembe	320	325
Do wts	136	140
xKirk H	73	74
xKirk M	190	192
xKirk Tn	19	27
xKroy Oil	264	265
Labatt	21	22
Labrador	23½	23½
xL Cinch	85	90
xL Duflt	270	275
xL Ling	16	17
vL Osu	19	24½
xL Shore	435	445
xL Wasa	22½	25½
L Woods p	...	149
xLa Luz	405	420
xLamque	275	290
Laura Sec	19½	20½
Laurent A	10	10½
Do wts	...	100
L and J A	20½	21
Do B	21½	...
xLeitch	101	103
xLencourt	15	16
xLexindin	22	23
Lewis Bros	9½	10
xLib Pete	320	325
xLL Lac	240	245
Loblaw A	48½	53
Do pr	31½	32½
Do B	87½	89
Do nw A	20½	23
Do B	21½	22
Do pr	44	44½
Loews	121	...
xLomega	16½	17
xLon Hos	200	250
Do A	6½	6½
xLl Pete	15	17
xLorado	121	123
xLouvicort	24	24½
L St. Lwce	22	23
Lowney	22	25
xLndhrst	125	127
xLynx	12½	13
xMacassa	190	195
xMacdnld	88	90
xMacfie	15	18
xMackeno	32	40
MacK Str	43	45
Do pr	100	...
xMacLeod	133	136
MacMill A	43½	...
Do B	43½	44
xMadsen	240	242
xMages	145	150
xMagnet	12	13
Malmn pr	...	98
Do cm p	27	25
xMalartic	146	150
xMneast U	21	22
M Lf Gard	30	31
M Lf Mill	81	84
Do pr	...	99
xMaralgo	25	29
xMarcon	20½	24½
xMarcus	9½	11
xMarigold	25	28
xMartimo	261	265
xMar B wt	...	...
xMartin	16	18½
Mass-Har	8½	8½
Do pr	94	94½
xMatatch	60	69
Maxwell	7	7½
xMaybrn	140	141
McBrne pr	10½	10½
McCabe A	18	20½
Do B	18	...
McColl	65½	...
Do pr	94	97
McIntyre	87½	89
xMcKenzie	28	29
xMcMrmac	14	15
xMcWtters	41	42
xMentr n	55	60
xM Chip	10	10
xMerrill	270	275
Mer Pete	17½	18½
xMeta Ur	32	34½
Mex LP	15½	17
Do pr	11½	12
Mex Tram	...	14
xMidcon	132	135
Mid Pac	19	22
xMidrim	279	280
xMid-Wst	475	500
Do wts	265	270
xMill City	33	35
xMilliken	168	170
xM Brick	420	440
xMindmar	20	21
Min. Corp	25½	25½
xMin End	64	65
xMin-Ore	26	27
Michi & C	34½	...
Mod Cont	12½	14
Do A	15½	16
xMogul	325	330
Molson A	25	25
Do B	23	25
xM Knit	450	500
Do pr	47	50
Mon Mort	46	...
xMoneta	68	69
Mont Loco	16½	16½
Moore	52½	53
Morgn & C	...	22½
Do 4¼pr	102	...
Mor Brass	91	91½
xMul-Min	154	155
xNama Cr	104	110
Nat Drug	11½	12
Do pr	11½	12
Nat Hy	54	55
Nat Groc	20	22½
Do pr	27½	27½
N Hos A	5	...
Do B	5	5½
Nat Lead	115½	116½
xN Pete	495	500
N St Car	30	30½
Nat Trust	40½	41½
xNello	26	27
xN Labne	142	144
xN Alger	20	21½
xN Athont	93	97
xNew Bid	15	18
xN Brstl	152	154
xN B Dm	245	250
xN Cal	71	75
xN Cham	123	125
xN Concd	36	40
xN Cont	65	66
xN Davies	21½	25
xN Delhi	101	103
xN Dcken	160	170
xN Frtune	30	32
xN Gas E	165	169
xN Gldvue	22	24
xN Harcna	20	21
xN Hghrge	63	65
xN Hosco	30	32
xN Jason	18	19
xN Kelore	17	18
xNewlund	54	57
xN Man	123	125
xN Minda	65	67
xN Mylma	17	18
xNewnrth	13½	14
xN Rouyn	17	19
xN Rtrn	380	385
xN Senator	8½	9
xN Sprior	251	259
xN Taku	24	26
xN Thurb	14	15
xNick R	450	455
xNipisng	375	380
xNisto	17	19
xNor-Ac	101	105
Noranda	60½	61
xNordon	20	26
xNorgold	20½	21
xNorlartic	14	15
xNormetl	700	710
xNorpax	149	150
xNC Oils	710	715
Do wts	375	380
Do pr	39½	40
xNor Inca	8	9
xN Rnkin	147	148
Nth Star	15½	16
Do wts	7½	8
xNorpan	415	425
xN Trin	9	9½
xNth Can	140	145
NQ Pow	31½	34
Do 1 pr	49½	50½
NW Util p	87	89½
xNthland	80	85
xNorvalie	49	50
xNudulma	43	47
Oak Wood	6	6½
xObaska	11½	12
xO'Brien	80	85
Off Spec	15½	17½
xOgama	29½	30
xOil Select	16	17
xOka Rare	85	90
xOkalta	290	294
xO'Leary	27	28
xOmnitrans	9	18
xOB Sup	25	...
Do pr	5	6
xO Jock	255	260
Do pr	10½	10½
Do B pr	10	10½
Do wts	62	65
Ont Loan	28	29½
Ont Steel	26	28
Do pr	13½	...
xOpemiska	15½	15½
xOrge Cr	360	400
xOrenada	22	26
xOrmsby	75	78
xOsisko	41½	43
xPac Cyle	140	150
xPac Est	13	14
Pac Pete	...	10½
Page-Her	101	...
xPamour	52	53
xPanel	550	570
xPan West	38	39
xParamaq	13	14
xParbec	12	13
xPardee	75	78
Parker D	5½	5½
xPater	75	80
xPthfndr	154	156
xPaymstr	28	31
xPeace R	11½	11½
Pembina	43½	43½
Do pr	50½	...
Penmans	24½	25
Do pr	119	120
PC Jewel	22	25
Do pr	100	100½
xPerron	25	25½
xPer Oils	225	230
xPetrol	124	125
Phil Oil C	160	165
Photo Eng	41	43½
xP Crow	145	150
xPioneer	175	183
xPitch-Ore	11	12
Placer	13½	14
xPonder	75	80
xPop Oils	27	38
Powell R	54½	54½
xRow Ryn	57	61
Pow Corp	...	68
xPrarie O	475	490
xPrem B	15	16
Prem Tr	84	90
xPres El	160	165
PRM Inc	36½	37
xPreston	600	615
Price Bros	...	96
xPronto	550	570
Do wts	245	250
xPros Air	200	210
Pro Trans	12½	13½
xPro Gas	230	233
xPurdy M	32	33
xQue Ch	223	225
xQue Cop	180	185
Que Lith	10½	10½
xQue Mn	102	110
xQ Metal	335	340
Que Pow	28	29½
xQuenston	30	31
Quemont	27½	27½
Quinte A	10½	12
Do Com	6	...
xRadiore	119	120
xRainville	155	160
Rapid-Grip	9	9½
xRare E	250	255
xRayrock	168	170
xReef Ex	15	16
xReeves	194	225
Regent	20	21½
xRenabie	235	240
xRexspar	27	29
Ryld Al p	98	100½
xRio Pal	205	205
xRio Rup	21	22
R Silk A	10½	11½
Do B	185	425
xRix Ath	77	80
Robertson	13	...
Do $1 pr	...	20½
xRobin	300	500
R Little	...	9½
Do A	13½	15
xRoche	18	19
xRockwin	31	32
Rol P pr	...	90
xRow Con	13	14
xRoxana	12	13
Royal Bnk	65½	66
Ryl Oak A	11	14½
Royalite	14	14½
Do pr	98	99
Russell	11½	12
xRyanor	15	17
St L Cm A	17	17½
St L Corp	83	84
Silcrd pr	101½	102
xSt Michi	41	42
xSan Ant	77	80
xSand R	19	19½
xSapphire	260	265
Do debs	112	115
Sar Bdge	15½	15½
xSask C	310	315
Scarfe A	11½	11½
xScry -R	290	295
Scythes	...	15½
Do pr	24½	25½
xSecur Fr	430	440
T Fin A	45	45½
Do B	42½	43
Do 4ipc	...	99
Do 5 pc	46½	47
Do A rts	17½	...
Do B rts	18½	...
xTr-Can	185	190
xTr-Emp	220	223
xTrans Era	39	40
Trans-Mt	76	76½
Trans PPL	16½	16½
xTrans Res	39½	40
xTrend P	19	19½
xTriad O	1090	1100
Tuckett	137	147
Union Acc	5½	5½
Do 2 pr	8½	8½
Un Gas	581	59
xU Ming	22½	25
xU Ash	685	695
U Corp A	30	30
Do B	26½	27
xU Estella	22	23
U Fuel A	57½	60½
Do B	36	38
xUn Keno	640	645
xU Mntub	20	21
xUn Oils	254	255
Un Steel	16½	17
xUpp Can	85	88
xVandm	400	415
xVandoo	35	37
Ventures	45	45½
Viau Ltd	65	70
Viceroy A	6½	7½
Do B	300	400
xVico	115	119
Vic G Tr	25½	26
xViolmac	188	189
V Dare pr	12	14½
xVulcan	75	80
Wabasso	16½	17½
Waite Am	14½	14½
Walk GW	72½	73
Wat Equip	18½	19
xWeedon	57	60
Wellington	78	...
Warn Nic	60	63
xW Mas pr	...	25
xWespac	34	35
xW Malar	22	23
xW Mygl	142	149
Westeel	19½	19½
xW Ashley	14	15
W C Brew	30	30½
xW Delta	175	180
Do wts	39	40
W Gro A	38	38
Do pr	28	28½
xW Lease	650	700
xW Naco	135	140
Do wts	27½	28½
Weston A	24½	24½
Do B	24	24½
Do pr	98	98
White 1 pr	40	43
Wh Pass	10½	11½
xWillroy	240	245
xWilrich	43	43
xWiltsey	14	15
xWinchstr	10	10½
xWindcwrd	25	27
Wpg Cent	13½	13½
xW Alex	330	350
GH Wod p	97½	...
xW Comb	10	10½
xWr Har	173	177
xYale L	35	36½
xYan Can	15	16
xYellorex	12½	14½
xYk Bear	218	220
xY Knt A	150	175
Do B	36	70
xYukeno	11½	12
xZenmac	35	36
xZulapa	45	49

Corporation Bonds

(Supplied by Investment Dealers Assn. of Canada)

July 31, 1956.

Public Utility Issues	Int. Rate %	Due	Bid	Ask.	Prev. Week Bid
Alg. Cen. H.B.R.	5	'59	147	150	147
Bell Telephone	3	'77	86	89	86
Do.	3½	'79	94½	97½	94½
Bowater Pr. Co.	3½	'80	91	94	91

THE WEEK'S QUOTATIONS

Montreal and Toronto Winnipeg, Calgary and Vancouver

Quotations here listed are the official, exchange prices for listed stocks including curb market quotations. For unlisted stocks, quotations by unlisted dealers are given. The Financial Post cannot accept any responsibility for these quotations.

Bid and Ask quotes of Toronto and Montreal exchanges up to press time are published on page 23

WEEK ENDING JULY 27, 1956

Range 1956 High	Range 1956 Low	Div. Rate $	Y'ld R'te July 27 %	Company	Sales	Last July 20	Week end. July 27 H	Week end. July 27 L	Week end. July 27 Close
1.75	.70		...	Abitica Lum.	187075	1.50	1.75	1.45	1.70
45¼	34½	1.50	3.7	Abitibi	7823	41¼	41¼	40½	41
25½	24	1.12½	4.5	Do. 4½% pref.	1660	24¾	24¾	24¾	24¾
12¼	9½	.50	4.9	Acadia Atlan.	500	10	10¼	10	10¼
106	101½	5.00	5.0	Do. 5% pref.	20	104¾	101¼	100	100
34½	21¾	1.20	5.5	Do. (A)	1070	21¾	23	21¾	22
..	..	a1.00	...	Admiral	nil	..	17¾	17¼	17
8½	7	.40	5.6	Agnew Surp.	440	7¼	7¼	7¼	7¼
10½	8½	.55	6.1	Do. pref.	21	8½	9	9	9
2.10	1.50		...	Albt. Dist.	1825	1.65	1.70	1.60	1.70
1.75	1.40		...	Do. V.T.	1000	1.50	1.50	1.40	1.40
127	93		...	Algoma Steel	2532	121	125	122	124
26¼	23	1.60	4.0	Alum. of Can. p.	7180	25	25¼	25	25
52½	49½	2.25	4.5	Do. 2nd pref.	2430	51	52½	50¼	50¼
147½	100	a1.75	...	Aluminium	4538	139	140½	136½	138
8	5¼	a.15	...	Andian Nat.	5	6	7½	7½	7½
15	13½	.40	...	Anglo. Can. Oils (Brandon)	nil	..	17	..	15
53	43½	2.00	4.1	Ang. Cdn. Pulp	815	49	49¼	48	49
54	51½	2.50	5.4	Do. pref.	80	52½	52½	†50½	52½
50½	44½	2.25	4.9	Ang. Can. Tel. p	650	45½	45½	44¼	45½
13¾	10½	.60	5.0	Ang. Nfld.	10410	12¼	12¾	11¼	12
..	..	*1.00	...	Anglo-Scand. Inv	nil	..	..	..	11
28½	24½	1.20	4.7	Anthes Imp.	65	25½	25½	25½	25½
.80	.35		...	Arcan Corp.	nil	..	.35	.40	.35
25½	20½	.80	3.6	Argus	2826	22	22¼	22	22¼
57	53	2.40	4.4	Do. $2.40 pref.	545	53¾	54	53¾	54
47½	45	2.50	5.4	Do. $2.50 pref.	200	46¼	46¼	46	46¼
..	..	a.75	...	Aro Equip.	nil	..	..	..	135
45	36	1.00+1.60	...	Asbestos	21250	40	41¾	40¾	40¾
14	14	.60	4.4	Ashdown Hd. A.	nil	..	..	..	†13½
14½	12½	.72	5.4	Do. B	450	13	13	13	13
6¼	5½		...	Ash Temple	300	5½	5½	5½	5½
98	96	6.00	6.0	Do. A pref.	25	†99½	†100	†100	†100
10½	9½	.65	6.8	Do. B pref.	100	9½	9½	9½	9½
..	..	a4.00+*2.00	...	Assoc. T&TA p	nil	..	..	..	101
7	6		...	Atlan. Accept.	nil	..	..	..	6
16	15	1.10	6.9	Do. pref.	nil	..	16	18	16
32¼	17½	*.50	...	Atlas Steels	7675	30	30¼	29¼	30
14	10¼	*.52½	+1.20	Auto Electric	355	12	13	12	13
10½	9½	.50	5.0	Do. (A)	nil	..	10	..	10
6	5	*	...	Auto Fabric A.	25	5½	6	..	6
3.50	1.00	*	...	Do. (B)	2590	1.00	3.50	1.50	3.50
47	39	1.20+1.20		Bk. Can. Nat.	340	47	47	46½	46½
57½	47½	1.40+1.20		Bk. Montreal	6707	56	56	55½	56½
68¼	53¼	1.80+*.20		Bk. N. Scotia	2615	60½	61¼	59¾	61¼
4.70	3.00			Do. Rights	15110	4.45	4.70	4.30	4.60
45	45	3.20+*.90		Barber-Ellis	nil	..	40	..	45
..	..	3.50		Do. 7% pref.	nil	..	19¼	..	..
7½	7½			Barcelona	nil	..	8	9	9
10	9½	1.00	11.0	Bates & Innes A	nil	..	..	9½	9½
65¼	62	3.00+*.50		Bathurst Pr. A.	500	63	..	63½	64
46	37	*1.25		Do. (B)	†270	44¼	44	42¾	43½
8	6½	.40	5.3	Beatty Bros.	533	7½	7¼	7¼	7½
..	..	.80		Beaubran	nil	..	31¼	32½	30
21	19	.80		Beaver Lumber	215	19½	20	19½	20
32¾	21½	1.00	4.6	Do. (A)	nil	..	21	22	20½
33	32½	1.40	4.2	Do. pref.	nil	..	33	..	33
9	6½	1.20e		Belding Cort.	nil	..	6½	7½	6½
13	11½	.70	6.1	Do. pref.	nil	..	12	13	11½
10½	5¼	*	...	Belgium Stores	102	10	†12½	10	10½
2	1.00	.50	5.9	Do. pref.	25	15	17	17	17
51¼	45½	2.00	4.2	Bell Telephone	28414	47½	48¼	47	47½
1.45	1.02		...	Do. Rights	204589	1.22	1.45	1.21	1.30
8	6¼	.40	6.2	Biltmore Hats	40	..	5½	..	6½
14½	12¾	1.00	7.8	Do. (A)	nil	..	12¾	13	12¾
50	50	2.40+2.40		Bird Constr.	nil	..	50	..	50
10	8		...	Blue Ribbon	nil	..	9	10	10
34	32	*.62½		Do. pref.	nil	..	35	40	32½
..	..	*.50	...	Bowes Ltd.	nil	..	18	..	13
51	50		...	Bowater Corp.	1641	50½	50½	50	50½
20	17½	1.00	5.7	Brant. Cord. A.	27	17½	18	17½	17½
12½	9½	.50	5.1	Do. (B)	nil	..	9½	10½	9½
3	6	*.50	...	Brazilian Tr.	65496	7¼	7¾	7¼	7¼
98	90	6.00	6.5	Do. pref.	nil	..	86	93	93
50	46½	2.90	5.9	Bridge & Tank p	85	49½	50	49½	49½
3.00	2.25		...	Do. Warr.	337	3	3	3	3
19	15		...	Bright, T. G.	nil	..	15¼	15½	15¼
21½	19	1.15	6.1	Do. 5% pref.	nil	..	19	19½	19
37	29	1.20+1.40		Bri. Am. Bk. N'S	nil	..	36½	..	37
47½	35	1.00		Brit. Amer. Oil	50106	46¾	47¼	45¾	47¼
95¼	88	4.00	4.5	B. C. Elec. 4% pf	25	90	88	88	88
106	99¼	4.75	4.7	Do. 4½% pref.	533	101¼	102	100¼	101
56¼	50	2.50	4.8	Do. 5% pref.	595	52½	53	52	52
53	47	2.25	4.8	Do. 4½% pref.	90	49	49	47	47
51	46	2.12½	4.3	Do. 4½% pref.	40	47	49	47	49
30	15½	*.37½		B.C. Forest	10615	16¼	18	16¼	17½
17½	15	.75	4.7	B.C. Packers A.	1000	16	16	16	16
15¼	12	11.00		Do. (B)	435	15	15½	15	15
47	36¼	1.20	2.6	B.C. Power	5435	46¼	47	45¼	46
52¼	46	2.00	4.2	B.C. Tele.	524	48¼	48¼	48	48
1.05	.87½			B.C. Turf	1200	1.05	1.00	.95	.95
24½	17½	a1.00		Brown Co.	3590	19¼	20¾	19¼	20
6.62½	4.35	*.06		Cdn. Marconi	1500	5.12½	5.12½	5.00	5.00
29¼	19½	.60	2.1	Can. Oil	7284	28	28½	27¾	28¼
107½	100	5.00	4.8	Do. 5% pref.	265	105¼	105½	105	105
165	160	8.00	5.0	Do. 8% pref.	10	160	161	161	161
99	93	4.00	4.3	Do. 4% pref.	nil	..	..	93	94
12¼	7½		...	Do. Warr. 1953	4865	12¼	12½	11¾	12
8.37½	3.25		...	Do. Warr. 1955	1205	5.25	5.12½	4.95	4.95
36¼	30½	1.50	4.7	Cdn. Pacific	11327	32¼	32¾	32	32¼
31¼	22½		...	Cdn. Petrofina p	4923	30¼	30¾	30	30¾
8	5¼		...	Cdn Pr & P Sec	120	7½	7½	7	7
1.20	.85		...	Cdn. Propane	nil	..	1.15	1.25	1.15
21½	15		...	Cdn. Salt	nil	..	21	21½	21
42	41	•	...	Cdn. Silk A	200	41	41	41	41
135	91	.60+*.10		Cdn. Tire	nil	..	131	140	135
..	..	1.00	4.8	Do. pref.	nil	..	20¾	..	21
104½	100	5.00	5.6	Cdn. Utilities p	42	†90	101	101	101
..	..	4.25		Do. 4½% pref.	nil	..	..	90	..
46	30½	1.50	4.2	Cdn. Vickers	1710	36¼	35½	35	35½
11½	10¼			C. Wallpaper A.	nil	..	13¼	16	11
17	10			Do. (B)	200	13	17	17	17
30	14½			Cdn. Lumber	600	30	28½	27½	28¼
19	16½	.80	4.6	Cdn. West Gasp.	nil	..	17½	17½	17¼
53	45	*.75		C. Westinghouse	165	45	43	43	43
8.95	4.60	*a.15		Capital Estates	1600	5¼	5¼	5¼	5¼
1.50	.95			Carling Br. Alta.	500	1.10	1.10	1.10	1.10
1.20	1.00			Do. V.T.	nil	..	1.00	1.10	1.05
14	12½	.60+*.30		Carter, J. B. A.	nil	..	..	13	14
18	17	*1.00		Do. (B)	nil	..	18	..	18
28	25	.50+*.10		Catelli Food A	50	†25	27	25	27
40	37½	1.00+*.10		Do. (B)	nil	..	38	..	38
..	..	*.25		Celanese Corp.	nil	..	..	..	22½
..	..	a8.50		Do. 4½% pre.	nil	..	..	..	..
..	..	a7.00		Do. 7% 2nd pf.	nil	..	..	..	..
28½	26	.20	2.8	Cent. Can. Invest	nil	..	28¼	..	28½
103	100½	5.00	5.0	Do. pref.	nil	..	101	104	100½
6	5	†.50+*.75		Cent. Nor. Air A	nil	..	..	8	6
8½	6			Do. (B)	nil	..	8½	..	8
72½	54	1.40	2.5	Chart. Trust	150	60	58	57	57
10.75	3.30			Chatco Steel	3600	10.62½	10.00	10.00	10.50
6½	5	.50	0.9	Do. pref.	175	6	6½	6½	6½
18½	14½	1.00	6.8	Chateau-Gai	nil	..	15½	16	14½
66	59	a1.50+*1.00		Chrysler Corp.	255	62¼	64	62½	62½
.65	.40	*6d		Cinzano A	nil	..	..	.55	.50
..	..	51¾		Do. 4½% pref.	nil	..	.83	1.50	†1.50
2	2	•	...	Circle Bar Knit.	nil	..	2	3	2
4½	4½	•	...	Do. (A)	nil	..	5	5¼	4½
8.75	3.70		...	Claude Neon A.	nil	..	6	7½	6.00
7	3½	•	...	Do. (B)	nil	..	6½	8	6½
82	68		...	Do. pref.	nil	..	82	..	82
22½	18½		...	Cochrane-D	100	†18	18	18	18
22½	19	.80	4.2	Do. (A)	nil	..	18½	18½	†18½
6½	5¾	•	...	Cockshutt Farm	2848	6½	6½	6½	6½
17½	16	1.00	6.3	Coghlin, B. J.	181	17	17	16	16
..	..	*.75+.35		Coll. Terminal	nil	..	12	..	†13
..	..	*.75+.35		Do. pref.	nil	..	12	..	†13
224	164	.40	1.8	Loblaw. Comp. A	773	21½	22½	21½	22½
11	10½	.60	5.5	Do. (B)	126	89	89	82	87
6175	381	39½	38¼	Fraser Cos.	39	38¾	39	..	39
15	..	..	..	Fraser Bronze A	450	11½	12	11½	12
99½	90	4.50	4.9	Do. pref.	96	92	95	92	95
3056	29	29½	28¾	29	10	110	109	109	109
42	1104	111	109	109	22	22	1.40	6.4	Do. pref.
475	52	6	52	52	6	6	..	..	Paul S. S.
8906	67½	71½	66	70	53	23¼	..	..	Pembina Pipe
6475	37	37½	36¼	36¾	115	50¼	2.50	5.0	Do. 5% pref.
nil	..	395	..	350	931	46¼	*1.00	..	Gen. Motors
nil	..	95	..	†95	39¼	36	*	..	Gen. Products A
nil	..	37½	40	37	48	48	*	..	Do. (B)
nil	..	42	..	†40	165	8¼	8¼	8	8¼
70	90	90	90	90	51	141½	147	135	144
52	48¼	49	48	49	52	48¼	49	48	49
nil	..	..	..	102	73	68	8	8	8
nil	..	22	24	24	4209	33¼	34¼	33¼	34¼
167	101	101½	101	101	1271	47¾	49	46	48½
125	16	16	16	16	1734	35¼	35¼	30¼	30¾
nil	..	..	20	225	2329	3.75	3.75	3.45	3.45
2145	19¾	19¾	17	17	100	45	44	44	44
375	35	34	33¾	34	1200	11	11¼	11	11
210	27	28	27¼	28	600	10	10¼	10¼	10¼
nil	..	49	49	49	211	18¼	.35	+2.25	Que.-Telephone
nil	..	..	20	20	310	250	3.00	0.4	Que. West-Lime
nil	..	5	5¼	5	20	19	2.00	+1.00	Gt. W. Saddlery
600	6	6¼	5¾	6	5.50	4.40	.20	+2.05	Greening Wire
50	21	22¼	22¼	22¼	nil	..	..	..	Growers Wine
385	3	3	3	3	24	20	.70	3.3	Guaranty Trust
125	†23	†23	†23	†23	6	3	..	..	Gurney Prod. C.
2070	21	21	20½	20½	27	24	1.60	7.0	Do. pref.
215	21¼	†20½	†20½	†20½	23¾	21	1.00	4.9	Hahn Brass
nil	..	15	17¼	16¼	21	14	.80	4.8	Do. (A)
nil	..	14	17	13¼	102	97	4.95	5.0	Reynolds-Alum.
nil	..	98	..	†100	54¾	45	•	..	Ridgeway Corp.
nil	..	84	81	81	13	9¼	..	..	River S. Mill A.
nil	..	84	10	10¼	3.60	3.10	•	..	Do. B
450	29½	31¼	31	31½	21¼	18½	a	..	Robertson, J.
130	3¼	4	4	4	15	12	.40	..	Robertson, J. R. L.
31	29	29	29	29	22	19	1.00	+a.15	Do. pref.
92	92	5.00	5.4	Do. pref.	5	3	..	..	Robinson Cotton
nil	..	..	..	70	3	3	..	..	Do. pref.
176	50½	50	49	50	20	10¼	10	10	Robinson Little
200	3	22	22	22	25	14	†13¼	†13¼	†13¼
nil	..	..	1.60	2.00	3225	21¼	19¼	19¼	19¼
nil	..	..	..	66	950	20	19¼	19	19¼
96	85	4.25	5.0	Do. pref.	10	93	85	85	85
654	56¼	1.80	+2.20	Royal Bank	11434	64	65¼	64	64¼
11¾	11¼	.60	5.3	Royal O. Dairy A	nil	..	11	14¼	11¼
14¾	10¾	.80	7.0	Russell Indust.	1010	11¼	11¾	11¼	11¼
18	16		...	St. Law. Cem.	1070	17	17¾	17	17¾
92¼	75½	2.00	2.4	St. Law. Corp.	3405	81¼	83¼	81¼	83¼
105	100¼		...	Do. 5% pref.	676	102¾	102¾	101¼	102
100	100	7.00	7.0	Lav. Fl. pfd.	1700	100	100	100	100
20	12	*.30		Sangamo	200	12¼	12	12	12
16	14½	.80	5.2	Sarnia Br.	nil	..	15	15¾	15¼
36203	2.90	3.25	2.85	3.15	2	..	..	..	Sask. Cem. Corp.
13	10¼	.80	6.7	Scarfe & Co. A	nil	..	11¼	11¼	12
nil	..	•	..	Do. (B)	nil	..	11	..	11
16½	16	1.00	6.7	Scythes & Co.	80	16	†15	†15	†15
25	24½	1.25	5.0	Do. pref.	2	..	24¼	25	25
93¼	68	1.80	2.0	Shawinigan pr.	3022	89	93¼	88¼	90
52	47	2.00	4.2	Do. 4½% pref.	170	47¼	48	47¼	47¾
54¼	51	2.25	4.2	Do. 4½% B	25	45	45	45	45
45	35	.80	+.25	Sher. Wms.	1460	40	40	40	40
152	140	7.00	5.0	Do. pref.	nil	..	..	140	140
11¾	9¼	.50	4.9	Shirriff-Horsey	1925	10	10¼	9¾	10¼
29¼	25	1.20	+1.20	Sicks Brew.	820	26	26	25	25¼
28¼	25	1.20	+1.20	Do. V.T.	175	25	25	25	25
35	31	.90	2.8	Sidney Roofing A	10	†32	..	32	32
20	19	1.00	5.7	Silknit	35	†17	†17¼	†17¾	†17½
37½	37¼	2.00	5.4	Do. pref.	115	37¼	37¼	37¼	37¼
13¼	11	.60	5.3	Silverwoods A	400	11¼	11¼	11¼	11¼
13¼	12	.60	5.1	Do. B	nil	..	19	12	†11¼
12	10¼	1.00	..	Simon & Sons	nil	..	10¼	..	†10
104	95½	5.00	5.2	Do. pref.	104	95½	5.00	5.2	Do. pref.
25	16¼	.50	2.2	Simpson	4367	22¼	23¼	21¼	23¼
100	†3	3.50	†3.40	†3.40	100	†3	3.50	†3.40	†3.40
105	16¼	16	15¼	15½	105	16¼	16	15¼	15½
nil	..	43¼	..	45	17	14	*.37½	..	Wabasso Cot.
130	51	51	50¼	50¼	6.87½	2.75		...	Wainwright
180	48	48	48	48	75	65¼	3.00	+1.00	Walker-Good
180	53	55	53¼	55	17½	10	.10	...	Watermans Pen
20	140	141	141	141	18½	11½	*.33	...	Waterous Eqpt.
nil	..	90	..	95¾	nil	..	*4.00	+1.00	Wellington Fire
nil	..	..	..	65	nil	..	•		Wesley Mason pf
nil	..	38¼	38¼	41½	21½	18½	1.20	6.3	Westeel
nil	..	10	..	†10	35¼	29¼	1.20	..	West Can. Brew
1640	41¼	41½	40	41	43	38¼	2.00	5.2	West Grocers A
nil	..	12	15	11¼	34	29	1.40	5.0	Do. pref.
nil	..	9¼	9¼	9¼	nil	..	7.00	4.5	West Koot. pref.
nil	..	8	9	6¼	27	21	*.45	...	West Plywood B
100	25	25	25	25	28	27	.50	1.8	Westminster P. A
10592	69	70	68½	69	29½	25	.70	+2.10	Do. B
175	103¼	104½	103¼	104	35¼	20½	.30	1.2	Weston Geo. A
nil	..	47	50	47	36½	21	.30	1.3	Do. B
nil	..	4	4¼	4¼	104½	96	4.50	4.6	Do. 4½% pref.
nil	..	..	..	42	47	45	2.80	6.4	White Hard. pfd.
nil	..	..	10	†6	15	11	..	..	White Passy
694	14	16	15	15½	40	38	..	..	Willson Stat.
nil	..	..	..	†192½	101½	98	5.00	5.1	Do. pref.
nil	..	..	..	†188	9	7½	*.25	...	Wilson, J. C.
nil	..	†140	..	†148½	47	39	1.50	...	Windsor Hotel
1710	91	91	91	91	154	11	1.50	...	Winnipeg Gas
1135	8¼	8¼	8	8¼	..	..	..	...	Wpg. Win. Club
405	8	8¼	7¼	8	4.00	3.25	1.30	...	Wood Alex
80	25	25½	25¼	25¼	102	101	5.50	5.6	Wood, G. H., pf.
60	3.35	3.35	3.35	3.35	..	..	..	...	Woodford Roy. A
4160	22¼	22¼	22	22	nil	..	..	...	Do. B
nil	..	30	42	33	47½	47	‡Stk.	...	Woods Mfg.
					2.85	2.75	•	...	Wool Combing
					2.60	1.50	•	...	York Knitting A
					.70	.25		...	Do. B
					.27	23½	*.72½	+.10	Zellers
					52	46	2.25	4.6	Do. 4½% pref.

Where there have been no transactions during the week covered, the word "nil" is shown under sales and the quotations shown are the bid, ask and last sale price, instead of high, low and close.

Mining Stocks

WEEK ENDED JULY 27, 1956.

Range 1956 High	Range 1956 Low	Div. Rate $	Company	Sales	Last July 20	Week Ending July 27 High	Week Ending July 27 Low	Week Ending July 27 Close
.80	.32	...	Abbican	4,387	.58	.57	.48	.52
.30	.13½	...	Acadia Uran.	17,600	.14	.15½	.14½	.15
.16	.08	...	Ad Astra	nil	..	..	.11	.08
5.50	5.00	...	Advocate	3,600	5.10	5.15	5.00	5.10
.14	.10	...	Ainsworth	3,000	.11	.11	.10	.11
.65	.50	...	Akaitcho	8,700	.51	.58	.50	.50
.90	.27	...	Alba	57,475	.40	.38	.31	.34
19.50	13.37½	...	Algom	2,010	15.75	16.50	15.50	16.12½
98.50	94.50	...	Do. 5% debs.	185	95.00	95.50	95.00	95.00
10.00	6.50	...	Do. warr.	820	7.45	7.50	7.25	7.50
.15	.09	...	Alta.	6,100	.10	.10	.10	.10
.25	.15	...	Amal. Lard.	13,964	.23	.23	.20	.21½
.22	.13	...	Amer'm.	180,000	.18	.20	.18	.20
2.70	1.55	*.02	Amer. Neph.	3,766	2.34	2.45	2.30	2.31
.30	.15	...	Am. Stand.	19,500	.16	.19	.17	.17
3.70	2.70	...	Anacon Ld.	15,942	2.75	2.80	2.70	2.75
13.50	12.25	.50	Anglo-Hur.	400	12.50	12.75	12.50	12.62½
1.98	1.00	...	Anglo-Rou.	36,400	1.44	1.60	1.45	1.50
1.90	.75	...	Anthonian	11,600	.39	.40	.35	.40
2.37	1.51	...	Arcadia	66,300	2.28	2.30	2.22	2.24
.65	.40	...	Area	2,000	.42	.45	.42	.42
.70	.15	...	Arjon	46,200	.29	.28	.26	.26
.21	.04½	...	Arno	261,070	.17½	.20	.17½	.19½
.52	.18	...	Ascot Met.	26,400	.19	.20	.18	.19
.24	.12	...	Atlas Sulp.	200	.12	†10	†.10	†.10
.25	.13	...	Atlas Y'fe	15,700	.19	.20	.16	.16
21½	.11	...	Atlin-Ruff.	80,500	.19	.19½	.13½	.19
.24	.08	...	Aubelle	44,100	.15	.15	.13	.13
21½	.12	...	Aull	nil	..	.15	.19	.14
.74	.36	...	Aumacho	16,215	.43½	.45	.39	.40
.46	.16	...	Aumaque	31,800	.16½	.18	.16	.17
2.45	2.05	.16	Aunor	1,750	2.30	2.21	2.15	2.21
.16½	.09	...	Avillabona	9,750	.11½	.12	.11	.12
.17	.09	...	Bagamac	55,300	.09½	.09½	.09	.09
.90	.70	...	Baker Talc	2,700	.70	.80	.71	.80
.15	.06½	...	Band Ore	5,600	.08½	.09	.08½	.08½
1.05	.72	...	Bandowan	16,300	.90	.90	.72	.72
.40	.31	...	Bankeno	5,400	.34	.35	.33½	.35
.17	.09	...	Bankfield	4,717	.11½	.12½	.11	.12½
1.09	.60	...	Barnat	1,900	.61	.60	.60	.60
.23	.09	...	Barvallee	50,000	.20	.20	.17½	.17½
1.65	1.00	...	Barvue	6,725	1.00	1.05	1.00	1.01
.25	.00½	...	Do. warr.	67,880	.03	.04	.00½	.01
2.60	2.33	1.15	Barymin	3,300	2.45	2.49	2.45	2.49
1.25	.76	...	Base Metals	41,855	.93	.92	.88	.90
.61	.25	...	Baska	28,700	.30	.32	.28	.31
.60	.25	...	Bateman	5,500	.30	.30	.75	.75
.18	.10	...	Beatrice	5,500	.11	.11½	.11	.11
3.25	1.25	...	B'tie-Duq.	35,220	2.18	2.25	2.01	2.01
3.40	1.85	...	Beaucage	12,550	2.30	2.25	2.05	2.05
.71	.31	...	Beaver L'ge	28,900	.40	.47	.40	.44
4.25	1.10	...	Belcher	117,388

Mine and Oil Stocks

Range 1956 High	Low	Div. Rate $	Company	Sales	Last July 20	Week Ending July 27 High	Low	Close
1.93	1.27	...	C. Fenimore	3,789	1.36	1.39	1.35	1.37
.45	.20	...	Do. warr..	nil	...	.22	.35	.20
.18	.11	...	Con. Gillies	12,240	.12	.14	.12	.14
.84	.25	...	C. Gold. Arr.	8,000	.35	.34	.28	.28
.50	.30	...	C. Guayana.	2,000	.40	.36	.35	.35
3.75	.44	...	C. Hall'well	186,800	1.99	2.05	1.87	1.91
5.10	4.00	...	Con. Howey	9,680	4.30	4.25	4.05	4.10
.87	.42	...	C. Marbenor	2,000	.50	.45	.42	.42
1.16	.33	...	C. Morrison	18,600	.37	.39	.33	.33
.96	.70	...	Con. Mosher	7,575	.82	.75	.75	.75
.44	.24	...	Con. Negus.	13,974	.25	.26	.24	.25
.45	.11	...	Con. Nich..	12,533	.14	.15	.13	.15
2.04	.99	...	C. Northland	23,722	1.05	1.15	1.01	1.10
.40	.22	...	C. Pershcourt	4,166	.23	.22	.22½	.22
1.10	.51	...	Con. Que. G.	nil	...	.56	.70	.51
1.10	.40	...	Con. Que. Y.	25,851	.83	.90	.81	.90
.69	.30	...	C. Red Pop.	2,610	.34	.35	.31	.31
1.39	.45	...	C. Regcourt.	21,720	.58	.60	.53	.56
.28	.12	...	C. Sah'rm ..	5,100	.14	.14¼	.14	.14
38.00	30.00	.80	Con. Smelt.	17,268	31.25	31.12½	30.25	30.62½
		+.55						
5.40	3.45	...	Con. Sud'ry	27,026	3.95	4.00	3.80	3.90
.60	.35	...	Con. Thor .	26,600	.50	.50	.42	.47
.90	.55	...	Con. Tung.	52,850	.83	.83	.74	.78
3.25	1.00	...	Con. Potash	3,760	1.30	1.30	1.00	1.15
8.25	5.75	...	Conwest ..	5,810	7.60	7.85	7.80	7.80
6.65	3.25	...	Copper Cliff	28,799	3.65	3.70	3.45	3.55
2.00	1.42	...	Copper Corp.	37,800	1.95	1.95	1.83	1.89
.57	.39	...	Coppercrest.	8,560	.42	.42	.40	.42
.56	.15½	...	Copper Man.	19,889	.17	.20	.17	.20
.15	.05	...	Cortez	28,500	.12	.12½	.11½	.11½
2.18	1.15	...	Coulee	40,480	1.25	1.60	1.25	1.35
.29	.16	...	Cournor	6,500	.18	.18½	.16	.18½
3.10	1.40	...	Cowichan ...	11,160	1.53	1.52	1.40	1.42
.16	.08	...	Crestaurum .	5,000	.11½	.12	.11½	.12
.37	.19	...	Croinor	3,000	.32	.30	.24	.30
.10	.05	...	Cron. Bab..	5,700	.06	.06	.05	.06
.72	.33	...	Crowpat	11,900	.40	.40	.35	.35
.39	.15	...	Cusco	8,565	.17	.18	.15	.18
.09½	.09½	...	Cygnet	nil	...	.01¼	.03	.06½
1.26	.30	...	D'Aragon ..	124,700	.87	.90	.74	.75
1.00	.56	...	Decoursey B.	8,935	.64	.63	.80	.60
.47	.19	...	Do. warr..	2,000	.19½	.19	.19	.19
.85	.45	...	Deer Horn ..	4,200	.50	.50	.45	.48
.32½	.17	...	D'Eldona ...	13,290	.20	.20	.18½	.19
.88	.70	.04	Delnite	600	.77	.79	.79	.79
1.06	.23½	...	Desmond ..	7,020	.27½	.29	.25½	.25
.20	.13	...	Detta Min..	19,506	.16½	.17	.16	.16
.94½	.28	...	Diadem	19,792	.37	.35	.30	.32
.30	.07	...	Dickstone C.	3,000	.20	.20	.17	.17
15.87½	13.62½	.70	Dome M. ..	2,116	13.75	14.25	13.75	13.75
.28	.15	...	Dom. Asb. ..	16,400	.15½	.17	.15	.16½
.70	.42	...	Donalda	67,800	.58	.58	.55	.56
.09	.04	...	Doreen	4,500	.05	.06	.05	.05½
3.05	.78	...	Duvan	84,500	1.05	1.10	.85	.90
.47	.18	...	Duvex	35,100	.34½	.36	.30	.32
1.60	1.00	...	Dyno	31,170	1.03	1.10	1.03	1.10
.13½	.09½	...	East Amph.	10,500	.13½	.13	.12	.12
2.52	1.60	*.05	East Mal. ..	8,050	1.76	1.76	1.60	1.65
6.75	5.70	*.30	East Sull. .	9,915	6.00	6.10	5.75	5.90
		+.05						
1.50	.70	...	East. Asb. .	83,450	1.09	1.06	.70	.90
1.08	.62	...	East. Metals	31,100	.68	.71	.63	.65
7.70	5.60	...	East. Min. .	27,053	6.55	6.60	6.30	6.35
.79	.45	...	Elder	3,000	.45	.45	.45	.45
1.80	.70	...	Eldrich	23,600	.97	.95	.85	.85
1.20	.09	...	El Pen-R. .	1,740,976	1.00	1.07	.82	.85
.20	.09½	...	El Sol	14,000	.13½	.14½	.13	.14
.33	.15	...	Emerald	10,200	.17	.18	.16	.18
2.35	1.68	...	Eureka	16,200	1.46	1.48	1.42	1.42
1.27	.85	...	Explor. All.	387,870	1.13	1.27	1.10	1.27
.30	.25	...	Fab. Met. ..	2,200	.30	.32	.25	.25
39.00	29.00	*.50	Falconbridge	6,915	37.87½	38.50	37.00	38.00
		+.10						
.49	.22	...	Fano	44,500	.26	.31	.25	.30
2.37	1.25	...	Faraday	17,950	1.60	1.60	1.50	1.55
.72	.20	...	Farw't Tung.	4,200	.28	.27½	.26½	.26½
.62	.20	...	Federal	83,225	.30	.44	.30	.41
.01½	.00½	...	Flin Flon ..	3,000	.01½	.01	.01	.01
.28	.12	...	Fontana '45..	16,200	.13	.13	.13	.13
.70	.34	...	Forty-Four..	nil	...	.33	.45	.34
.26	.07½	...	Francoeur ..	35,399	.21	.21	.19	.19
4.75	3.80	...	Frobisher ..	22,415	4.45	4.55	4.30	4.45
97.00	85.00	...	Do. 4% deb.	60	86.00	86.00	86.00	86.00
.43	.25	...	Fundy Bay ..	12,500	.27	.27	.25	.26
.54	.30	...	Gaitwin	13,700	.33	.36	.30	.30
36.00	34.00	...	Gaspe Cop..	210	50.50	52.00	50.50	51.00
24.00	17.00	...	Geco	4,940	20.25	20.50	19.62½	20.00
.64	.32	...	Genex	8,900	.38	.39	.35	.36
3.90	1.50	...	Geo-Scient..	1,900	1.90	1.95	1.60	1.60
1.05	.65	.06	Giant Mas..	9,700	.70	.77	.70	.77
6.30	4.50	*.30	Giant Y'ke .	18,975	5.85	6.00	5.80	5.90
1.60	.70	...	Glenn Ur. ..	77,136	1.05	1.05	1.00	1.01
.46	.27	...	Goldale	4,600	.28	.28	.27	.27
.36	.20	...	Gold Crest.	15,800	.27	.27	.25	.25½
.13½	.09	...	Gold Eagle.	2,000	.11	.10½	.10½	.10½
.01½	.00½	...	Gold Lake.	1,972	.01½	.01½	.00½	.01½
3.00	2.75	...	Gold Man. .	4,300	2.80	2.90	2.76	2.90
.60	.37	...	Goldfields .	3,800	.39	.38	.37	.38
.45	.20	...	Graham R. ..	5,535	.25	.26	.24	.24
19.75	13.75	*.25	Granby	250	14.50	14.50	†13.50	†13.50
.65	.30	...	Grandines .	38,870	.32	.35	.30	.31
.58	.42	*.02	Grandoro ..	nil	...	.50	.58	.50
9.45	5.60	...	Granduc	3,710	6.95	7.00	6.60	6.60
.22	.14	...	Grandview..	500	.14	.15	.15	.15
.03¼	.02	...	Great Falls.	2,000	.03	.03	.03	.03
1.09	.42	...	Greyhawk ..	62,388	.47	.54	.45	.50
.21	.12	...	Gui-Por Ur.	500	.15	.12	.12	.12
1.49	.31	...	Gulch	44,550	.36	.40	.31	.37
.26	.14	...	Guif Ld. ...	21,500	.17	.17	.14½	.17
19.75	15.25	...	Gunnar G..	10,245	17.25	17.62½	17.25	17.50
12.75	8.50	...	Do. warr. .	2,680	9.25	9.50	9.05	9.25
.29	.12	...	Gwillim Lk.	26,115	.13	.13½	.13	.13½
.39	.26	...	Haitian	392,600	...	.39	.26	.31
3.50	3.25	.20	Hallnor	nil	...	3.25	3.50	3.25
.09	.04	...	Hamil.	2,000	.04	.05	.05	.05
.22	.12¼	...	Hard Rock..	29,900	.17½	.17½	.15	.16
1.70	.51	...	Harr. Min..	19,400	.70	.67	.55	.60
.24	.14½	...	Hasaga	2,400	.20	.15	.14½	.14½
.20	.13	...	H'd of Lakes	11,000	.13	.14	.13	.14
2.09	1.10	...	Headway ..	57,750	1.30	1.53	1.30	1.37
.39½	.10	...	Heath	177,000	.28	.31	.26	.29
.15	.03½	...	Heva G.M..	6,500	.10	.10	.09½	.09½
.95	.70	...	High-Bell..	29,450	.92	.95	.80	.95
30.12½	23.37½	.24	Hollinger ..	3,674	28.50	29.00	28.00	28.00
10.87½	6.95	...	Hoyle	3,915	8.00	8.00	7.75	7.80
97.50	64.00	*2.75	Hudson Bay	10,794	93.00	97.50	92.50	95.75
		+$1.00						
.33	.09	...	Hudson R. .	58,602	.25	.33	.24½	.32
.53	.28	...	Hugh Pam. .	7,200	.33	.40	.32	.40
.31½	.09	...	Imperial ...	15,000	.16	.16	.15	.15½
.86	.15	...	Indian L. .	43,200	.23	.24	.20	.21
.07½	.04½	...	Indian M. .	8,000	.05	.06	.05	.05
1.74	1.12	...	Inspiration.	17,750	1.20	1.20	1.12	1.12
100.00	78.25	*1.30	Int. Nickel.	9,634	97.75	100.00	96.50	98.00
		+1.35						
131.87½	126.50	7%	Do. pfd. ..	15	127.50	128.00	128.00	128.00
6.62½	6.25	7%	Do. $5% pf.	nil	...	6.25	6.50	6.50
1.82	.66	...	Int. Ranwick	10,700	.70	.72	.66	.66
3.85	2.35	...	Irish Cop...	7,942	2.85	3.10	2.90	3.00
4.75	2.75	...	Iron Bay ..	2,000	3.50	3.50	3.30	3.35
.01½	.01	...	Island Lake.	nil	...	.01½	.02	.01½
.31	.21	...	Iso Uran. ..	6,000	.23	.28	.22	.22
1.30	.23	...	Jackson M..	1,700	.34	.35	.30	.30
.40	.20	1.04	Jack Waite.	15,500	.26	.28	.25	.26
		+.00½						
.52	.26	...	Jacobus	250	.31	.30	.30	.30
.36	.20	...	Jardun	4,700	.25	.25	.23	.25
1.38	.31	...	Jaye	92,850	1.10	1.15	1.01	1.10
.84	.28	...	Jeanette ...	58,917	.59	.62	.57	.62
...	...	...	Jeep	nil	...	...	...	.22
.28	.09½	...	Jellicoe	56,600	.20	.21	.20	.20
.34	.14	...	Joburke ...	376,100	.32	.33	.27	.28
1.59	.98	...	Joliet Que..	143,380	1.45	1.45	1.26	1.30
.50	.28	...	Jonsmith ..	57,625	.30½	.31	.28	.30
1.24	.89	...	K. J. Jowsey	14,198	1.15	1.18	1.05	1.15
.12½	.08	...	Kenville ...	4,000	.09½	.09½	.09	.09
22.00	17.00	.80	K.-Addison.	6,100	21.37½	21.50	20.25	20.50
.93	.40	...	Kerr Lake ..	nil	...	.60	.80	.61
.13½	.09	...	Keyboycon.	73,375	.10	.11	.09	.09½
.90	.60	...	Keymet	nil	...	.55	.65	.60
3.10	3.30	...	Kilembe ..	2,400	3.45	3.50	3.30	3.30
3.20	1.35	...	Do. warr. .	4,450	1.45	1.50	1.40	1.40
.98	.32	...	Kirk. H. Bay	70,600	.90	.90	.91	.82
2.09	1.50	...	Kirk. Min. .	376,719	1.52	2.09	1.53	1.91
.40	.23	...	Kirk. Town.	1,020	.23	.25	.25	.25
.43	.14	...	Kontiki Ld.	13,500	.14½	.15	.14	.14
.05	.02½	...	Koot. Base..	3,000	.02½	.02½	.02½	.02½
25.00	18.00	...	Labrador ..	1,630	24.25	24.75	23.00	24.00
3.75	.55	...	Lake Cinch.	42,220	.87	.97	.80	.85
3.55	1.93	...	L. Dufault .	14,865	2.91	2.98	2.70	2.75
.25	.13	...	L. Lingman.	10,200	.17	.18	.14	.14
.38	.20½	...	Lake Osu ..	1,000	.22½	.21	.21	.21
6.00	4.20	2.10	Lk. Shore ..	1,037	4.35	4.35	14.15	4.35
.37	.20	...	Lk. Wasa ..	650	.27½	.23	.23	.23
4.45	2.65	.10	La Luz	2,500	4.00	4.15	3.85	4.05
3.55	2.60	*.10	Lamaque G.	1,469	2.75	3.00	2.60	2.75
1.08	.68	*.03	Leitch Gold	102,350	.80	1.06	.80	.98
.41	.12½	...	Lencourt ..	14,500	.15	.15	.15	.15
.38	.18½	...	Lexindin ..	2,700	.22	.23	.23	.23
.27½	.15	...	Lingside ...	33,900	.16½	.18	.16	.16
2.50	.65	...	Lithium	1,500	.75	.75	.65	.65
3.35	1.29	...	Little L.L. .	30,255	2.70	2.85	2.55	2.60
.26	.06½	...	Lomega ...	257,799	.17½	.18	.14	.16
2.18	.99	...	Lorado Ur..	96,145	1.10	1.25	.99	1.20
.40	.22	...	Louvicourt.	8,310	.25	.24	.22	.22
2.50	1.25	...	Lyndhurst .	19,100	1.30	1.35	1.25	1.28
1.17½	.06	...	Lynx Yk. ..	2,500	.13½	.12½	.13½	.12½
2.30	1.85	*.06	Macassa	3,145	1.90	1.95	1.85	1.95
		+2.03						
1.51	.83	...	MacDonald.	9,650	1.00	.96	.85	.87
.24½	.12	...	Macfie	9,600	.15	.16	.14	.15
.57	.32	...	Mackeno ...	69,150	.36	.42	.35	.39
1.49	1.10	*.05	Macleod	35,402	1.21	1.47	1.20	1.40
2.70	2.20	*.05	Mad. R.L. ..	3,803	2.49	2.45	2.42	2.45
.21½	.11	...	Magnet	3,500	.11	.13½	.11	.13
2.65	1.41	*.02	Malartic G..	6,000	1.58	1.50	1.50	1.50
.41	.20	...	Maneast Ur.	5,267	.21	.21	.20	.21
.49	.17	...	Maralgo	25,325	.25	.27	.25	.25
.35	.17	...	Marcon	26,575	.30	.30	.24½	.26
.14	.09	...	Marcus Gold	3,000	.09½	.10	.09	.09
3.20	2.15	...	Maritimes ..	32,540	2.80	2.90	2.60	2.75
3.80	.70	...	Do. B warr.	13,500	1.00	1.00	.85	.90
.39	.15	...	Martin McN.	24,800	.16	.16	.15	.15
.65	.20	...	Massberyle .	6,300	.42	.33	.30	.33
.93	.65	...	Matachewan	nil	...	.60	.90	.65
2.20	.88	...	Maybrun ..	846,089	1.46	1.58	1.35	1.45
95.50	79.87½	2.00	McIntyre ...	1,560	89.00	90.00	89.00	89.00
		+1.00						
.45	.31	...	McK. R.L. .	38,200	.35	.38	.34	.38
.25	.12	...	McMarmac ..	13,120	.13	.14½	.12	.14½
.70	.29½	...	McWatters .	9,850	.41	.43	.40	.43
1.37	.45	...	Mentor Exp.	3,600	.55	.55	.55	.55
.54	.30	...	Mercedes ..	65,193	.49½	.47	.30	.38
4.65	2.55	...	Merrill Is. .	27,613	2.90	2.94	2.75	2.80
.47	.23	...	Meta Ur. ...	123,450	.34	.40	.32	.34
2.65	.81	...	Midrim	279,080	2.50	2.65	2.49	2.65
1.07	.45	...	Midwest ...	116,350	.70	.94	.70	.94
2.80	1.49	...	Milliken L..	29,850	1.70	1.75	1.65	1.70
.43	.17	...	Mindamar ..	1,000	.20	.20	.20	.20
29.37½	22.25	*.50	Mng. Corp..	2,637	24.50	24.87½	24.50	24.87½
		+1.25						
.96	.50	...	Min.-End. .	79,850	.70	.71	.62	.68
1.00	.25	...	Min-Ore ...	11,587	.25½	.27	.25	.26
1.40	.70	...	Mogador ...	1,600	.75	.80	.75	.80
3.95	2.90	...	Mogul	21,335	3.25	3.35	3.25	3.30
1.74	1.10	...	Molyb'nite .	14,600	1.10	1.54	1.23	1.23
.90	.68	*.05	Moneta	6,300	.70	.70	.68	.70
3.25	2.00	...	Montgary ..	122,575	3.25	3.25	2.80	2.81
.11½	.06½	...	Montpas	2,500	.08	.08	.08	.08
1.65	1.20	...	Multi-Min .	11,783	1.35	1.55	1.35	1.35
2.15	1.01	...	Nama Cr. ..	19,940	1.61	1.20	1.01	1.06
1.47	.50	...	Nat. Ex. ...	38,700	.55	.58	.50	.56
.42	.22	...	Nello Min. .	nil	...	.26	.29	.29
4.10	1.20	...	Nesbitt L. .	28,550	1.26	1.45	1.25	1.45
.41	.22	...	N. Alger ..	15,500	.23	.23½	.22	.22
.83	.53	...	N. Athona .	7,199	.67	.68	.63	.66
.31	.14	...	New Bidl'e.	11,300	.17	.18	.14	.17
1.30	.70	...	N. Calumet.	5,050	.70	.75	.70	.72
1.18	1.00	...	N. Delhi ..	7,450	1.01	1.01	1.01	1.01
2.05	1.55	*.05	N. Dick'n ..	1,570	1.60	1.75	1.65	1.65
.64	.08	...	N. Formaque	28,300	.40	.41	.39	.36
.63	.21	...	N. Fortune .	47,350	.33	.35	.30	.30
.36	.17	...	N. G'dvue .	23,071	.21½	.20½	.17	.19
.40	.20	...	N. Har'na .	8,000	.23½	.22	.21	.21
1.19	.50	...	N. H'ridge .	26,133	.72	.72	.66	.68
.30	.26	...	N. Hosco ..	5,535	.38	.33	.29	.31
6.00	4.05	...	Nor-Acme ..	29,100	1.10	1.15	1.00	1.04
64.62½	51.50	2.00	Noranda ...	3,396	60.00	60.75	58.75	60.25
.56	.15	...	Norgold	12,100	.24	.22½	.20	.21½
.19½	.10	...	Norlartic ..	7,050	.15	.14	.14	.14
7.90	6.60	*.45	Normetal ...	5,484	6.95	7.05	6.95	7.00
1.68	.46	...	Norpax	353,477	1.49	1.65	1.45	1.47
.14½	.07½	...	North Inca.	43,850	.08½	.08½	.07½	.08
1.67	.80	...	N. Rankin .	87,150	1.38	1.42	1.30	1.30
.13	.08	*.02	N. Trinity .	4,000	.09	.09	.09	.09½
2.00	.58	...	North Can..	13,700	1.51	1.53	1.40	1.40
4.55	3.15	...	North Span.	171,717	3.75	4.35	3.75	4.00
.51	.28	...	N.W. Vent. .	10,600	.38½	.43	.34	.35
.86	.31	...	Norvalie	37,000	.38	.39	.48	.48
.10	.03	...	Nuclear	5,000	.04	.04	.03	.04
.85	.32	...	Nudulama ..	8,050	.45	.45	.44	.45
.75	.30	...	Obalski	15,000	.38	.38	.35	.35
.27	.16	...	Obaska	11,000	.11½	.12	.10	.10
1.30	.68	*.02	O'Brien	4,810	.83	.85	.82	.82
.41	.11½	...	Ogama	162,500	.30	.30	.28½	.29
1.30	.71	...	Oka	4,925	.92	1.00	.90	.94
.45	.24	...	Omnitrans ..	157,000	.11	.11½	.09	.09½
1.20	.48	...	Opemisca ..	67,650	.78	.78	.65	.70
19.87½	8.20	...	Opemiska ..	22,685	15.00	15.25	14.75	15.00
.27	.16	...	Orchan	2,000	.20	.23	.19½	.20
.57	.20	...	Orenda	32,700	.22	.30	.23	.25
.94	.40	...	Ormsby	73,000	.56	.90	.75	.75
.63	.40	...	Osisko	9,000	.43	.46	.43	.43
.18	.11	...	Pac. East. .	9,500	.12	.12½	.11½	.12
.60	.27½	...	Pac. Nickel.	5,975	.47	.46	.44	.46
.02½	.01½	...	Packsack ..	nil	...	.01½	.03	.02
.78	.50	...	Pamour P. ..	1,690	.52	.54	.52	.54
.23	.09½	...	Paramaque.	26,500	.12	.15	.13	.14
.19	.11	...	Parbec	16,750	.13½	.14	.11½	.13
1.50	.75	...	Paridee	16,532	.85	.86	.75	.76
1.90	7.3	...	Pater	11,700	.74	.75	.73	.75
6.75	5.00	*.10	Pato Con. ..	700	5.30	5.25	5.10	5.25
.39½	.30	±.01	Paymaster .	9,915	.31	.31½	.31	.31
5.15	3.95	±.25	Pend Oreille	1,050	4.30	4.25	4.20	4.20
.34	.25	...	Perron Gold	2,025	.25	.26	.25	.26
2.23	1.32	.10	Pickle Crow	5,995	1.40	1.45	†1.30	1.45
2.10	1.72	*.12½	Pioneer G..	700	1.75	1.85	1.75	1.75
.18	.11	...	Pitch-Ore ..	33,600	.12	.12	.12	.12
.36	.15	...	Pitt G.	43,200	.19	.19	.17	.18
15.00	12.00	.50	Placer Dev..	20,925	12.75	15.00	12.50	14.75
.33	.15	...	Porc. Prime	8,000	.16	.16	.15	.15
.40	.27	...	Portage	26,400	.32	.35	.32	.33
.66	.50	...	Powell R. ..	nil	...	.57	.61	.66
.23½	.05½	...	Prem. Bord.	43,300	.16½	.17	.15	.16
8.30	5.60	.08	Preston E. .	6,970	6.25	6.25	5.90	6.00
9.40	5.25	...	Pronto	4,120	5.40	5.75	5.50	5.50
5.40	2.40	...	Do. warr. .	2,220	2.60	2.50	2.40	2.45
2.55	1.50	...	Prospectors.	27,175	1.70	2.40	1.65	2.10
.45	.15	...	Purdy Mica	40,700	.28	.36	.28	.31
.90	.39	...	Quatsino ...	6,100	.67	.67	.61	.64
4.85	1.63	*a	Que. Chib..	77,737	2.10	2.30	2.00	2.15
3.50	1.75	...	Que. Cop. ..	10,550	1.90	1.93	1.80	1.85
.32	.09½	...	Que. Lab. ..	62,100	.15	.16	.15	.16
15.00	10.00	...	Que. Lith. .	4,410	11.00	11.12½	10.00	10.25
1.94	1.00	...	Que. Man. .	1,700	1.04	1.10	1.02	1.02
4.60	3.30	...	Que. Met. ..	13,445	3.45	3.50	3.30	3.30
1.25	.44	...	Que. Smelt.	46,100	.62	.62	.60	.60
.30	.18	...	Queenston C.	5,135	.22	.22	.21	.21
30.00	24.75	*1.50	Quemont ...	1,395	27.00	28.00	27.00	27.50
1.80	1.05	...	Radiore	9,000	1.10	1.20	1.10	1.15
2.50	1.30	...	Rainville ..	4,160	1.65	1.69	1.55	1.60
6.05	2.50	...	Rare Earth.	33,805	3.00	3.00	2.55	2.62
2.85	1.55	...	Rayrock ...	44,725	1.64	1.75	1.61	1.70
.05	.02	...	Red Cloud .	1,000	.03	.03	.03	.03
.39	.13½	...	Red Crest .	80,300	.28	.28	.25	.27
.07	.03½	...	Red Hawk .	119,500	.04½	.07	.04	.07
2.70	2.01	.12½	Reeves McD.	700	2.22	2.35	2.22	2.22
2.70	2.25	*.10	Renabie	400	2.40	2.35	2.35	2.35
.75	.19	...	Rexspar	14,300	.20	.26	.21	.22
.08	.01½	...	Rice Lake ..	4,000	.05	.05	.05	.05
.37	.21	...	R.-Rupununi	5,333	.25	.24	.22	.23
1.20	.75	...	Rix-A'basca	11,000	.85	.85	.75	.80
.26	.14	...	Roche L.L. .	18,700	.17	.18	.14½	.18
.70	.27	...	Rockwin ...	2,000	.31	.31	.31	.31
.24½	.12	...	Rowan Con.	4,500	.14	.13	.12½	.13
.24	.13½	...	Ryanor	3,500	.16	.17	.15½	.15½
1.20	.30	...	St. Michaels	22,600	.33	.37	.30	.36
1.47	.76	±.06	San Antonio	2,939	.84	.80	1.60	.78
.20	.11	...	Sand River.	40,600	.20	.20	.18½	.19
....	....	...	Scotia Gold.	nil	...	.00½	....	.01½
.29	.09	...	Shawkey '45	134,244	.22	.24	.18	.23
2.25	1.35	...	Sheep Creek	3,400	1.50	1.45	1.40	1.40
10.62½	7.75	...	Sherritt G..	33,624	9.30	9.30	8.85	8.85
5.40	4.55	.40	Sigma Mines	250	4.95	5.00	5.00	5.00
.27	.13	...	Silanco	46,900	.14	.17	.14	.14½
.25	.12	...	Silbak Prem.	14,000	.24	.24½	.23	.24½

ANNOUNCEMENT

DOSCO APPOINTMENT

DANIEL SCOULER, JR. P. ENG.

Dominion Steel and Coal Corporation, Limited announces the appointment of Daniel Scouler, Jr. as Assistant Chief Engineer of the Corporation, with headquarters in Montreal. Mr. Scouler, a native of Halifax, N.S., graduated from Nova Scotia Technical College with degree of Bachelor of Mechanical Engineering. He joined Halifax Shipyards Limited, a subsidiary of Dosco, as Maintenance Supervisor and in 1952 was appointed Plant Engineer for both the Halifax and Dartmouth plants.

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AT THE HALF-WAY MARK

Here's Canada's Mining Profit Picture

Generally Better Returns Are Reported By Key Industry

Prosperity of Canada's key mining industry appears to be continuing into 1956. Semi-annual reports appearing from some of the key companies that contribute to Canada's mineral wealth reflect continued growth in operations and earnings.

The semi-annual letters to shareholders that appeared this week reflected:

- Higher prices for copper that helped some of the major producers.
- Careful cost-cutting by the hard-pressed gold industry which helped brighten their outlook.
- Continued development work and plans to seek further for new properties.

Here are summaries of these reports:

The semi-annual report of **The Mining Corp. of Canada** gives brief summaries of operations of associated companies. Five prospecting parties are in the field. At **Geco Mines**, shortage of mine labor and the steel strike in the U. S. may delay deliveries of some steel for concentrator construction, Norman C. Urquhart, president, says.

* * *

Here are separate semi-annual reports of associated companies:

Quemont Mining Corp. net rose slightly to $2,485,400 in the first half, equal to $1.18 a share, from $2,441,000 profit estimated for the same period last year. The company milled 418,742 tons, down slightly from 419,815 tons.

* * *

Normetal Mining Corp. increased its estimated net profit to $1,639,800, equal to about 44c a share, in the first half of 1955 from $1,392,700 in the same period last year. Ore milled rose to 199,827 tons from 184,738 tons.

* * *

Torbrit Silver Mines estimated net profit dropped to $48,200, equal to about 2c a share, from $118,800 in the first half of 1955. The mine milled 67,151 tons, as against 78,113 tons in the same period last year. Operating profit after all taxes is estimated at $183,400 and the company provided $135,200 for depreciation and deferred development write-off.

An intensive prospecting campaign is being carried on with three drills operating on surface and one underground, J. A. H. Patterson, president, reports.

* * *

With copper prices substantially higher, giant **Noranda Mines** reported a jump in estimated net profit to $8,934,000 in the first half of 1956, equal to $1.99 a share. In the same period last year, Noranda had a profit of $6,681,000, or $1.49 a share. Metal production and investment income is shown at $19,452,000, up from $15,048,000.

* * *

This report adds that half-year earnings of **Canada Wire and Cable** are expected to be "reasonably close" to earnings in the first half of 1955. The new tube mill of **Noranda Copper and Brass** is expected to be in operation by the end of the year.

At **Gaspe Copper Mines**, power interruptions and a shortage of miners have delayed development work and attainment of full production of 6,500 tons of ore daily, reports John R. Bradfield, Noranda president. The Gaspe mill currently is treating 3,340 tons daily.

This property produced 14,650 tons of copper in the half year and realized a profit of $7,650,000 before provision for depreciation and pre-production expense.

* * *

Here are semi-annual reports just issued of other Noranda-associated companies:

Waite Amulet Mines net profit rose to an estimated $2,939,600 or 89c a share from $2,870,000 or 87c a share in the first half of 1955.

The mill treated an average of 917 tons daily of ore from the **East Waite** and **Amulet Dufault** and 968 tons of ore daily was treated on toll from West Macdonald Mines.

Tons milled, including Amulet Dufault, totaled 166,820, down from $232,728. Metal production and miscellaneous income was lower at $3,074,900 from $3,564,000 but dividends received from Amulet Dufault rose to $1,320,000 from $990,000.

Underground drilling in the area under and west of the old Waite ore bodies was not productive and deep drilling is now planned, James Y. Murdoch, president, says. Drifting west from A-11 winze on the 2,800-ft. level parallel to the C shaft has shown some promise.

* * *

Estimated net profit of **Kerr-Addison Gold Mines** rose to $2,670,170 in the first half of 1955, equal to 56.5c a share. This is up from $1,898,387 or 40c a share in the same period last year.

James Y. Murdoch, president, notes that "it is not anticipated that the highly-favorable earnings of the first half will be duplicated in the second half, due in part to higher labor costs.

	First Half 1956	First Half 1955
Tons milled	826,440	823,140
Gold recovery (oz.)	233,581	195,881
Value	$8,151,092	$6,734,870
Operating profit	$4,266,868	$3,063,294
Misc. income	$91,118	$89,428
Depreciation	$320,649	$308,594
Taxes	$1,367,167	$945,741
Est. net	$2,670,170	$1,898,387

* * *

Hallnor Mines had an estimated net profit of $198,600, equal to 9.93c a share, little changed from $198,000 or 9.9c a share in the same period last year. Tons milled amounted to 66,617 as against 67,800 with recovery per ton $12.16, as against $11.15. Development work was concentrated on the 21 and 22 levels with cross-cutting to mineralized zones completed. Detailed examination by drifting and drilling is under way to assess ore potentialities.

Higher production and development costs and lower tonnage treated resulted in a drop in estimated net profit of **Aunor Gold Mines** at $178,900, equal to 8.95c a share. This compares with net of $199,000 or 9.95c a share in the first half of 1955. Tons milled slipped to 94,180 from 95,431 and recovery per ton was $12.88, as against $12.96. Cost-aid assistance was higher at $77,000, from $46,000.

* * *

The exploration drift from the **Delnite** 4,375-ft. level was extended into the Aunor ore zone to 700 ft. east of the Aunor-Delnite boundary. The first 100 ft. of drift indicated some ore but the remainder has been disappointing and unless conditions improve the drift will be stopped.

* * *

Pamour Porcupine Mines had a profit of $52,000 in the first half of 1956, compared with a loss of $2,000 in the same period last year.

Excessive dilution by wall rock continued to reduce the average grade of ore treated to below the average grade of ore reserves, the semi-annual report says. The mill treated an average of 1,718 tons daily, down from 1,742 tons daily last year. About 35% of the ore originated in the west end of the mine and averaged $3.85 a ton with the East end averaging $2.81 a ton.

Total tons milled were 312,618 (315,624); recovery per ton, $2.85 ($2.83); gold production, $890,600 ($893,700), investment income, $52,700 ($53,300); cost-aid assistance, $208,000 ($195,000).

* * *

Net profit of **Hudson Bay Mining and Smelting Co.** increased at $11,739,384, equal to $4.26 a share, in the first half of 1956. This compares with estimated earnings of $9,059,551, equal to $3.28 a share in the same period last year. Ore milled from the company's properties totaled 819,233 tons, up from 808,521 tons.

* * *

Dome Mines net profit climbed to $896,769 or 46c a share in the first half of 1956 from $797,438 or 41c a share in the same period last year.

Although the company milled more ore, 358,600 tons as against 356,300 tons, bullion produced was lower at $2,908,798 from $2,937,731. However, operating costs were reduced to $7.60 a ton from $7.68 a ton in the first half of 1955.

	First Half 1956	First Half 1955
Tons milled	358,600	356,300
Gold recovery (ozs.)	83,162	85,131
Bullion	$2,908,798	$2,937,731
Operating costs	$2,724,912	$2,735,306
Cost-aid	$200,000	$170,000
Depreciation	$65,760	$78,000
Ontario mining tax	$18,000	$16,000
Operating profit	$300,126	$278,425
Other income	$656,643	$525,013
Income taxes	$60,000	$6,000
Est. net profit	$896,769	$797,438

* * *

Sigma Mines (Quebec) increased net profit to $242,391, equal to 24c a share, from $214,061 or 21c a share in the first half of 1955. Tons milled rose to 207,091 (198,038) and bullion produced was up $1,336,792 ($1,292,495). Operating costs were reduced to $5.20 a ton from $5.46.

* * *

Campbell Red Lake Mines net profit climbed to $674,522 from $590,594. Earnings per share were up at 16c from 15c in the first half of 1955. Tons milled rose to 127,430 from 112,822, bullion production at $2,225,930 was up from $2,007,079 and operating costs increased to $7.87 a ton from $7.68 a ton.

CERTIFICATE OF REGISTRY

Notice is hereby given that Certificate of Registry No. C1819 dated June 22nd, 1956, has been issued to the Boston Manufacturers Mutual Insurance Company, authorizing it to transact in Canada the business of Fire Insurance, Aircraft Insurance, Automobile Insurance, Boiler Insurance, Explosion Insurance, Inland Transportation Insurance, Machinery Insurance, Personal Property Insurance, Plate Glass Insurance, Real Property Insurance, Theft Insurance and, in addition thereto, Earthquake Insurance, Falling Aircraft Insurance, Hail Insurance, Impact by Vehicles Insurance, Sprinkler Leakage Insurance, Water Damage Insurance, Weather Insurance and Windstorm Insurance, limited to the insurance of the same property as is insured under a policy of Fire Insurance of the Company.

F. W. HARVEY,
Secretary.

James P. McD. Costigan,
Chief Agent in Canada,
Toronto, Ontario.

500-600,000 Tons Nickel Claimed For Kirkland

From 500,000 to 600,000 tons of nickel has been indicated on the newly acquired property of **Kirkland Minerals Corp.** in Sothman, Mond and Kemp townships of Ontario, the company says. The nickel graded an average of 0.75%, with copper values of up to 0.5%.

A three-mile long intrusive striking east and west has been outlined and about 800 feet of the structure has been closely drilled, it is reported.

Kirkland gained control of the 60-claim nickel group when it recently bought all the shares of **Beauvale Mines Ltd.**

Exploration planned involves 10,000 ft. of surface drilling to test the zone at depth, 5,000 ft. east and west of the original close drilled section and a number of electromagnetic surveys.

An estimated profit of $47,674 has been earned at the company gold mine during the first six months of this year. Bullion receipts totalled $563,982 and cost-aid is expected to amount to $80,000.

JOLIET-QUEBEC MINES LTD. in its annual report for 1955 says that underground drifting in the adjoining Quemont mine property toward the east boundary of Joliet-Quebec is nearing completion and plans are to extend one of the drifts to investigate the possibility of ore extensions. The company reports current assets of $3,239 at Dec. 31, 1955.

NOTICE

NOTICE is hereby given that The Dominion Insurance Corporation of Toronto, Ontario, has been granted by the Dominion Insurance Department, Certificate of Registry no. C1832 authorizing the Corporation to transact in Canada the business of: Fire Insurance, Accident Insurance, Automobile Insurance, Boiler Insurance, excluding Machinery Insurance, Explosion Insurance, Forgery Insurance, Guarantee Insurance, Inland Transportation Insurance, Personal Property Insurance, Plate Glass Insurance, Real Property Insurance, Theft Insurance and, in addition thereto, Earthquake Insurance, Falling Aircraft Insurance, Hail Insurance, Impact by Vehicles Insurance, Sprinkler Leakage Insurance, Water Damage Insurance, Weather Insurance and Windstorm Insurance, limited to the insurance of the same property as is insured under a policy of fire insurance of the company.

R. H. L. MASSIE,
President.

ANNOUNCEMENT

PROMOTIONS ON WOOL GROWERS STAFF

Two changes in Staff Officials, as recommended at a recent meeting of the Board of Directors of Canadian Co-operative Wool Growers Limited, are now confirmed by the Executive.

JOHN C. ROSS, C.A.

Born in Montreal and received primary education there; Honor Graduate in Commerce and Finance, with Degree of Bachelor of Commerce from University of Toronto. After six years' accounting and auditing experience with Clarkson, Gordon and Company, leading to the Degree of Chartered Accountant, he joined Canadian Co-operative Wool Growers Limited in 1940 as Accountant and Office Manager, was appointed Treasurer in 1954, and now assumes the dual position of Secretary-Treasurer. Mr. Ross had three-and-a-half years of Army Service in Royal Canadian Artillery, with overseas posting in artillery survey.

G. ALLAN O'BRIEN, M. Sc.

Educated in Toronto Public Schools and St. Andrews College at Aurora; entered Macdonald College of McGill University and, after serving three years with the Canadian Army, graduated in 1947. The same year, he joined the staff of the Economics Division of the Canada Dept. of Agriculture. In 1950, he obtained the Degree of Master of Science from Cornell University at Ithaca, N.Y. Since 1951, he has been operating his own business in Shediac, N.B., and, for the past three years, has served, also, as Maritime Representative for Canadian Co-operative Wool Growers, of which he now becomes Assistant Manager.

American Smelting In Ungava Search

American Smelting & Refining Co. has taken a 30% interest in the two-year $200,000 program of **LeMoyne Ungava Mines** to explore for base metals in the Cape Smith area of Ungava.

LeMoyne was formed when six companies joined forces to probe the wild New Quebec area for copper and nickel (FP, June 30). The company has exclusive rights to search for base metals in two areas covering 350 square miles in the region.

Reconnaissance geological and geophysical surveys on No. 1 area are nearing completion, the company has announced. Work has been concentrated in this area so far.

Rock blasting is slated to begin soon on the mineralized zones in which copper and nickel values were discovered last year.

Prospecting and geological reconnaissance work has now started in the No. 2 area, about 20 miles north, it is reported.

on the Q.T.

On the Quality Test, Dunlop air hose for heavy duty pneumatic tools has no equal.

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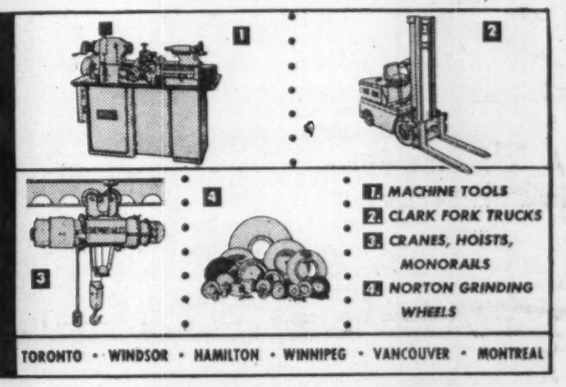

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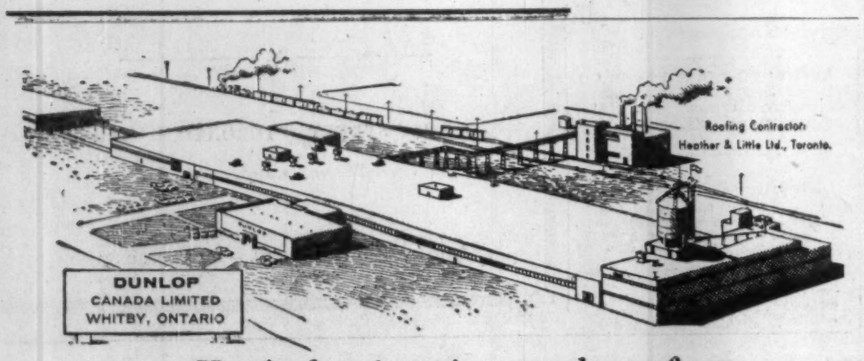
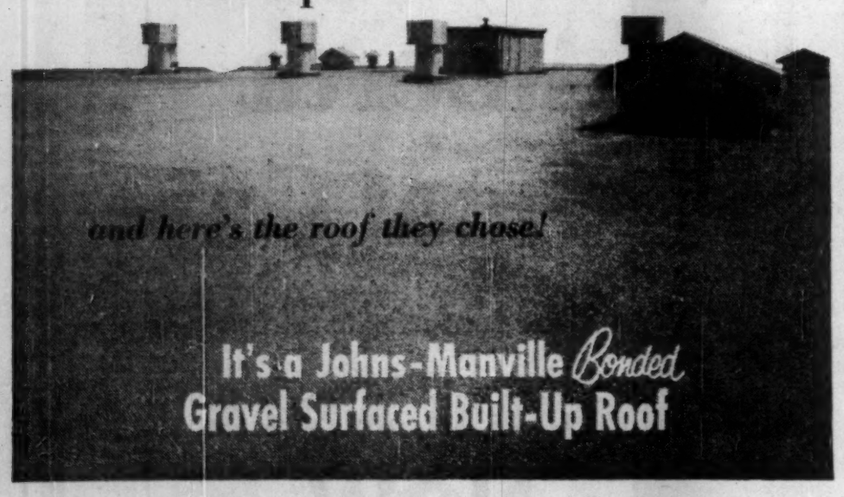


Here's the gigantic new plant of
Dunlop Canada Limited



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This is a 4-ply pitch and gravel roof. It is bonded by Johns-Manville for 20 years. And we have complete confidence that it will provide many more than two decades of low-cost weather-tight protection.

J-M Gravel Surfaced Built-Up Roofs combine the very best in roofing materials, engineering practice and application methods. The bituminous agent is a specially refined, low melting point pitch with ideal waterproofing and self-healing qualities. The gravel surface defies the sun's drying-out action . . . keeps the bitumen "lively" and thus protects the vital roofing felts.

Because proper application of materials is essential, the Dunlop Canada Ltd., roof (like all Johns-Manville Bonded Built-Up Roofs) was applied by a J-M-Approved Roofer.

Johns-Manville has a roofing specification for every type of building; this includes Flexstone smooth-surfaced asbestos roofs and Aquadam gravel surfaced roofs.

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Write Canadian Johns-Manville, Port Credit, Ont., for folders on Aquadam roofs and Flexstone Super "A" roofs.

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When fire struck two department stores...

WITHOUT SPRINKLERS — Half of the first story and all stories above were burned out by fire that originated in a rear shipping room of this unsprinklered 6-story fire-resistive building. Property damage alone amounted to $408,000.

Fire records are filled with cases of "fire-resistive" buildings—department stores, factories, hotels, hospitals—destroyed by fire. And these records tell only *part* of the tragic story.

What about your business? Could *you* survive a disastrous fire? Would insurance fully reimburse you for the loss of buildings, inventory, records, trained personnel, valued customers . . . *invaluable* lives?

Grinnell Sprinklers stand ready day and night, year after year, to stop fire when it starts . . . during those first few moments when a *little* water will do what *tons* of water often cannot accomplish later.

When you consider that installation of a Grinnell Automatic Sprinkler System reduces fire insurance premiums from 50% to 90%, it becomes an investment that pays for itself within a few years, and then starts paying you substantial cash dividends.

We shall gladly survey your property and submit an estimate, without cost or obligation. Write or phone Grinnell Company of Canada, Ltd., Edmonton, Montreal, Toronto, Vancouver, Winnipeg.

WITH SPRINKLERS — a possibly serious fire was averted in this 12-story department store when one sprinkler head of the Grinnell Sprinkler System completely extinguished a fire in several pieces of display fabrics. Loss: $250.

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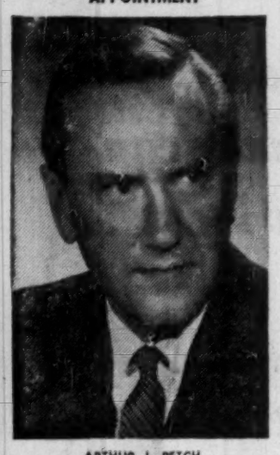
Manufacturing, Engineering and Installation of Automatic Sprinklers Since 1878

ANNOUNCEMENT

LAMINATED STRUCTURES LIMITED APPOINTMENT



ARTHUR J. PETCH

D. D. Millar, O.B.E., President of Laminated Structures Limited, announces the appointment of Arthur J. Petch as General Sales Manager. Mr. Petch has recently returned to Head Office in Montreal from the Company's Toronto Office where he served as Ontario Sales Manager.

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REXSPAR URANIUM & METALS MINING CO. will continue engineering and technical studies to lower production costs, according to the company's 1955 annual report. Further development of the property will be held up until financing is arranged. Current assets at Dec. 31, 1955 were $111,-021 and current liabilities $3,907.

MADSEN RED LAKE GOLD MINES LTD. reports production for the quarterly period ending June 30 this year was $936,759, down from $937,407 in the same period last year. Ore milled was 74,385 tons for an average of $12.59, compared with 74,033 tons milled for an average of $12.66 during the same period of 1955.

MINING INVESTMENTS

Mark Time On Gold Coast Expand Canada Aluminum

The giant Volta River aluminum project in Africa's Gold Coast is marking time as major participants — **Aluminium Ltd.** and **British Aluminium** — continue on major expansion programs in Canada.

Biggest consideration now in the Volta River project is the financing of the integrated power-bauxite mining-aluminum smelting plants.

This development would take some seven years to get to the production point and over-all would cost some $488 million to $644 million. Aim would be for production of about 210,000 to 230,000 tons of aluminum annually.

This giant project would have a major impact on the economy of the Gold Coast, now tied closely to cocoa. Plans call for Aluminium and British Aluminium to work chiefly on the smelter and mines while the Gold Coast Government and the U. K. Government would be more concerned with power development.

After several years of careful investigation, the scheme now is at the stage where the International Bank for Reconstruction and Development might consider assisting in financing.

The two aluminum companies, meanwhile, are going ahead with competing expansion programs in Canada which would add more to world aluminum output than the Gold Coast project. British Aluminium with **Quebec North Shore Paper** is building a smelter at Baie Comeau, Que. to produce 80,000 tons annually and with an ultimate capacity of 160,000 tons.

Aluminium Ltd., in addition to continual expansion of existing facilities, recently announced a $250 million power project on the Peribonka River to support 150,000 tons of aluminum smelting capacity.

* * *

Sisco Metals Maintains Output

Siscoe Metals of Ontario is maintaining production despite a fire which damaged head frame, crusher house and machine shop. The shaft on the adjoining **Castle Trethewey Mines** property is being used to obtain access for underground operations.

Milling of rock pile ore will continue in the No. 2 mill until hoisting operations are resumed in about a month. Company officials say insurance covers damage to plant and loss in operating profits resulting from limitation of underground operations.

* * *

Rare Earth Drive Stopped by Water

Flat drilling from No. 1 shaft station of the 620-ft. level to intersect the downward extension of No. 3 vein at **Rare Earth Mining Co.** returned 2½ ft. of .1% uranium oxide 175 ft. in the hole, T. Roy Clarke, mining engineer, reports.

The second hole in the program is out 175 ft. and expected to cut the vein at 200 to 225 ft.

The drive to the new Lake zone on the 275 ft. level of No. 2 shaft has been stopped by water pressure but grouting to seal off the water is in progress. Cross-cutting has started from the third level at 425 ft. depth to intersect the A4W zone, 1,000 ft. to the west.

* * *

Bateman Bay Zone Dips Vertically

Bateman Bay Mining reports that holes 36 and 38 have indicated a near vertical dip to its main ore zone on its copper property adjoining **Chibougamau-Jaculet.**

Hole 38 drilled under hole 36 at a 60 degree angle cut two intersections — at 231 ft. to 235 ft., 4 ft. of 1% copper and at 328.3 ft. to 334.6 ft., 6.3 ft. of 1.7% copper and 8.25% zinc. Both intersections also contained gold and silver. Hole 36 drilled at 40 degrees previously got 6.9 ft. of .9% copper.

Three rigs are working on the property's three zones. Hole 40 is drilling 100 ft. west and parallel to hole 38, the company says.

* * *

Ormsby Mines Cuts 1.7% Gold

Ormsby Mines reports that high grade gold ore has been intersected in a surface drilling program on property adjoining **Consolidated Discovery Yellowknife Mines.**

Structural picture includes a strong shear zone angling into the LaSalle fault.

The first hole to cross section this area intersected 5.5 feet, estimated true width 3.5 feet, assaying 1.69 oz., $59.15 per ton at $35.00 gold, at a vertical depth of 390 feet. The hole will be continued for a length of 1,500 feet.

* * *

Uranium Contracts Total $1,082 mill.

With two new contracts announced recently (FP, July 28) and increases in previous contracts, total value of uranium to be produced by Canadian mines at premium prices is $1,082,652,-600. This total includes an increase in **Lorado Uranium's** contract to $60,480,000 from $44,887,500 and a rise in **Can-Met Explorations** contract to $75,852,000 from $69,825,-000.

Lorado is building a custom mill in the Beaverlodge area to be completed by next spring at a capacity of 500 tons daily. Provision is being made for expansion to 650-700 tons daily by Oct., 1957.

The company is negotiating for treatment of custom ore from additional companies in the area. When the expansion program is completed, Lorado estimates its mill will have 100 tons daily excess capacity over its requirements under the premium price contract with Eldorado Mining & Refining.

Estimate Equity Of Mogul Mining At $4.30 A Share

Investment portfolio of **Mogul Mining Corp.** is valued at $23.6 millions based on the current market, President H. W. Knight Jr. announces in the annual report to shareholders for 1955.

On this basis, after allowing for conversion of the outstanding series A debentures and liquidation of all other liabilities, the equity value of the company's shares is about $4.30 per share, he said. This valuation is exclusive of mining properties or other fixed assets and deferred charges.

Shares in mining companies were of both escrowed and free shares. Slightly more than half the market valuation of securities was accounted for by free shares.

Up to Dec. 31, 1955, Mogul had current assets of $7,078,812 (including shares in mining companies at cost) and current liabilities of $5,328,000.

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This Market Letter is read and followed by Bankers, Brokers and The Man on the Street in almost every city, town and hamlet from coast to coast—and in many distant countries. It tells you what stocks to buy or sell in plain ordinary language and the reasons for so doing. (NO magic mathematical formula is expressed by THIS MARKET SERVICE). Recommendations are based on inside information backed up by over 20 years of intensive market experience.

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Ontario Mines Gold Output Increases 6%

Ontario's 31 operating gold mines produced $44,499,865 worth of gold and silver in the first six months of 1956, up almost 6% from $42,188,349 in the same period last year, the provincial department of mines reports.

The mines milled 4,655,236 tons of ore containing 1,272,673 oz. of gold and 190,417 oz. of silver this year as compared with 4,830,831 tons milled for a production of 1,222,433 oz. of gold and 195,917 oz. of silver in the same period of 1955. Last year, 33 mines were operating.

This year's figures show an increase of 4.1% in gold produced and 5.48% in total value, although the tonnage treated dropped by 3.6% from the previous year.

Figures released covering June production this year show total production value of $7,309,072, a jump of 2.62% over June, 1955. Ore milled during June, 1956, was 743,729 tons with a content of 211,186 oz. of gold and 32,547 oz. of silver.

Daily averages for June this year were 24,791 tons of ore milled, 7,039 oz. of gold and 1,085 oz. of silver obtained, and a value of $243,635. There was an average of 10,659 wage-earners employed during the month.

Average grade of ore for the month amounted to $9.82.

Approve Increase In Husky Capital

Shareholders of **Canadian Husky Oil** have approved an increase in authorized capitalization which will enable the company to make an exchange offer to the holders of **Husky Oil & Refining Ltd.** common and preference shares. (FP, July 21).

The change increases the authorized $1 par common shares from 1,168,950 to 4 million and creates 80,000 new 6% preferred shares. Canadian Husky plans to offer a portion of the new capital in a share-for-share exchange for all outstanding common and preference shares of Husky Oil & Refining. Canadian Husky now owns 1,168,950 common shares which is 59.4% of those outstanding.

Third Can. Gen. Net Rises 55%

Third Canadian General Investment Trust Ltd., Toronto, net profit for the six months ended June 30, 1956 was 55% higher than for same period last year ($256,058 against $165,180).

Earnings per share were equal to 13.9c (18c in previous period) based on 1,837,190 shares (918,595 shares) outstanding. Increase in shares outstanding reflects rights offering to shareholders of record Dec. 30, 1955 and expiring Feb. 10, 1956.

Interim balance sheet at June 30, 1956 shows total assets of $11,-103,111 ($6,245,540). Cash was higher at $294,064 ($56,635) and marketable securities had a book value of $10,807,589 ($6,188,905). Market value of securities was $13,483,985 ($8,797,028). Capital surplus distributable increased to $1,081,484 ($960,298).

Donohue Bros. Net Rises

Consolidated net profit of **Donohue Bros. Ltd.** for the first six months this year was $498,169 ($431,543 a year ago), equal to $1.66 ($1.44 a share).

The figures are subject to audit.

New Copper Zone Assays 5% Third Hit For Chib.-Jaculet

A third copper ore zone has been discovered on the **Chibougamau-Jaculet Mines** property in the Chibougamau camp. This find is 3,500 ft. north of the first two zones and company officials say grade appears better than in the original finds.

This third area was discovered in Hole V72 which intersected 42 ft. from 175 ft. to 217 ft. assaying 5.15% copper and .129 oz. gold. Approximate values are $41.20 in copper and $4.51 a ton in gold, R. P. Mills, president, says.

A second section deeper in the hole from 461 ft. to 494 ft. cut 33 ft. assaying 4.27% copper. Gold assays are not yet available on this intersection.

This ore zone is a typical carbonate similar to the Eaton Bay ore body at New Royran and the No. 2 zone on the Chibougamau-Jaculet property, Mr. Mills says.

The first intersection in the hole is along the shore of Lake Dorie and cuts the southerly end of a large electrical anomaly outlined in a geophysical survey.

The company is stepping up activity in this area with three drills to probe the No. 3 zone for length and depth. The remaining 13 drills continue on the No. 1 zone with a proven length of 2,200 ft. and the No. 2 zone with a strike length of 1,300 ft. This drilling is designed to fill in gaps prior to underground exploration.

Directors have appropriated $1.2 million for shaft and underground work on the No. 1 and No. 2 zones. A four-compartment shaft will be sunk to 600 ft. with about 7,000 ft. of drifting and cross-cutting to explore the two zones on three levels.

Werner Cuts Vein At Deepest Point

Drilling for the downward extension of the ore from the 600-ft. level of the Henry Clay mine on the New Mexico property of **Werner Lake Nickel Mines** has cut the vein 150 ft. below the level, the company reports. This is the deepest intersection in the current drilling program.

Hole U-10 angled at 55 deg. intersected, at about 150 ft. below the 600-ft. level, an 18-foot core which assayed 0.03 oz. gold and 1 oz. silver per ton, and 2.62% copper. True width is estimated at 12 ft.

Sampling of crosscuts 175 ft. apart on the 600-ft. level indicates ore width of about 15 ft. The east crosscut sampled across 12 ft. averages 0.04 oz. gold and 5.8 oz. silver per ton and 4.68% copper. West crosscut sampling gave 0.20 oz. gold and 15.2 oz. silver and 1.43% copper.

We have prepared a List of
20 INDUSTRIAL STOCKS
likely to appreciate 25% during last half of 1956

This List will be forwarded FREE to this week's subscribers to

CANADIAN MARKET LETTER

A weekly Market Letter, emphasizing Canadian stocks only, mailed to subscribers Friday afternoon and containing a limited TWO or THREE recommendations for the following week. With this small number of choices little confusion can arise about which one of a dozen or more should be BOUGHT or SOLD.

Mid-week Special recommendation—Sell T-18-8 at market. Code Decipher available to 25 and 50 issue applicants

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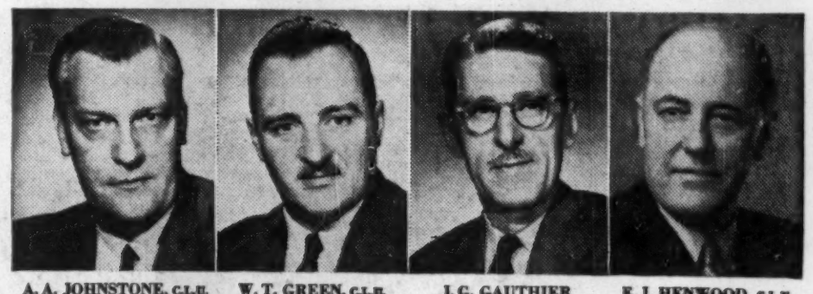
ANNOUNCEMENT

PRUDENTIAL EXECUTIVE APPOINTMENTS



A. A. JOHNSTONE, C.L.U. | W. T. GREEN, C.L.U. | J. G. GAUTHIER | E. J. HENWOOD, C.L.U.

Four key appointments in the agencies management staff of The Prudential Insurance Company of America have been announced by Robert M. Green, Vice President in charge of Canadian operations. Named Directors of Agencies, located at the Canadian Head Office in Toronto, were Arthur A. Johnstone, C.L.U., William T. Green, C.L.U., J. Gerard Gauthier, all formerly Associate Directors, and Edwin J. Henwood, C.L.U., formerly manager of the company's Peterborough district. The promotions coincided with Mr. Green's announcement that the Canadian sales organization has been divided into four regions, a move warranted by the rapid growth in the company's business in Canada.

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First Anniversary Progress Report

ANNACIS

INDUSTRIAL ESTATE

Aerial view of initial 200-acre development at north-east end of Annacis. A further 1,000 acres will be developed.

General Sir Ouvry L. Roberts, G.C.B., K.B.E., D.S.O.

Tomorrow we celebrate the first anniversary of the official opening of Annacis Industrial Estate. In the past year there has been rapid development of the Estate in every phase. In July, 1955, there was but one tenant. Today eighteen progressive Canadian, British and American companies are operating on Annacis and construction is under way for two more. The development, including sandfill, roads, railways, drains, power and water is now virtually complete for the first section of approximately 200 acres. There are now over 400 people at work on Annacis and each year will bring an increase in this working force with resultant benefits to the surrounding communities.

In January, the development and administration of Annacis was further strengthened by a partnership between Grosvenor Estates and John Laing & Son (Canada) Ltd., binding together centuries of experience in real estate development, engineering and construction.

We feel that the quickening pace of industrial activity on Annacis is due to the growing acceptance of our leasehold plan and that Annacis is contributing to the establishment of secondary industry in British Columbia. On this anniversary occasion, we express our appreciation to the Federal and Provincial Governments, Municipality of Delta, City of New Westminster, New Westminster Harbour Board and many public and private organizations and individuals whose co-operation has contributed so greatly to Annacis' successful first year.

Ouvry Roberts

GENERAL SIR OUVRY L. ROBERTS, G.C.B., K.B.E., D.S.O.

★ OPEN HOUSE, Sunday 1-5 p.m.

The public is invited to inspect the development on Annacis Sunday, July 22nd, from 1:00 p.m. to 5:00 p.m. The following premises will be open for inspection: Almetco Sales Ltd., Atlas Asbestos Co. Ltd., Dreem Boats and Marina Ltd., Great West Veneer Ltd., McCready-Campbell Ltd., Maritime Woodworking Ltd., Stanley Door Company.

GROSVENOR-LAING (B.C.) LIMITED

640 West Hastings Street, Vancouver 2, B.C.

Inquiries: Gilbert J. Hardman, A.R.I.C.S., Vice-President

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ATLAS ASBESTOS CO. LTD.
Manufacturers of asbestos-cement building materials, pipe and block insulation, asbestos textiles, automotive and industrial brake linings, asbestos-cement pressure pipe
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BARTLE & GIBSON CO. LTD.
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The Financial Post

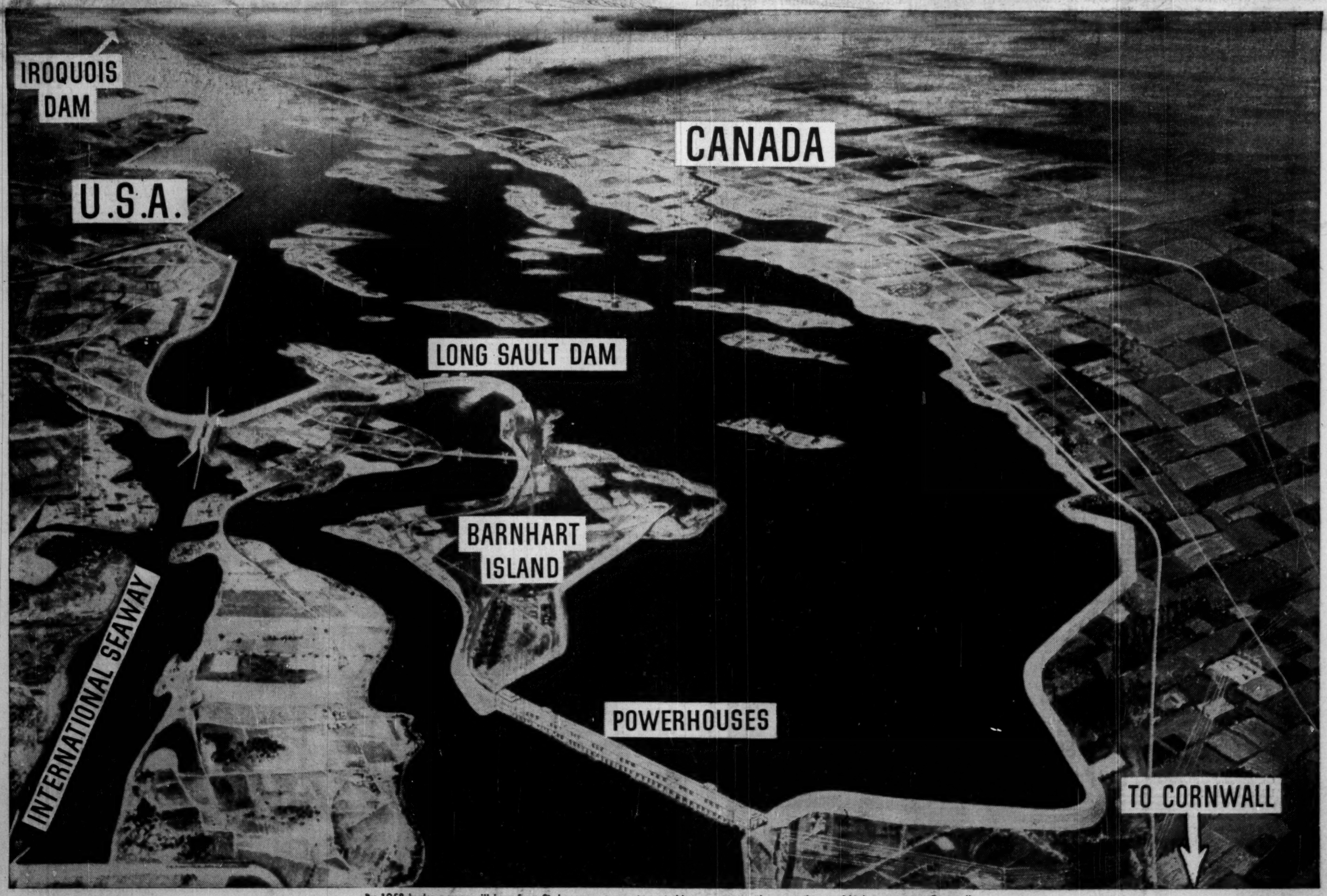
Vol. L | Twenty Cents an issue, Six Dollars a Year | Publication Office: Toronto, August 4, 1956 | Member of Audit Bureau of Circulations | No. 31

The Seaway: Dams, Ditches and Destiny

A Highway to Our Heartland...

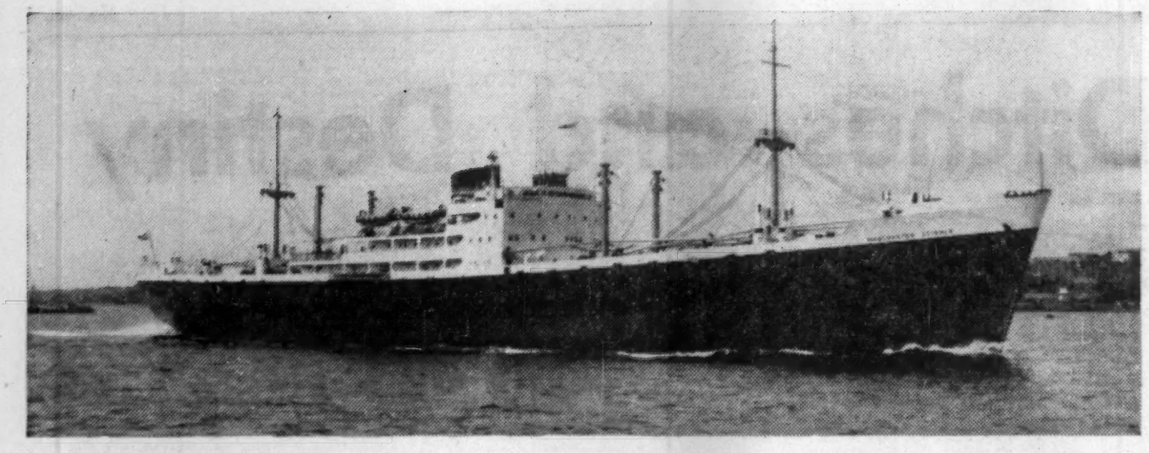
Afternoon sun shimmers on the St. Lawrence at Montreal, gateway to the Seaway's "sweet water" for salt-stained ocean ships

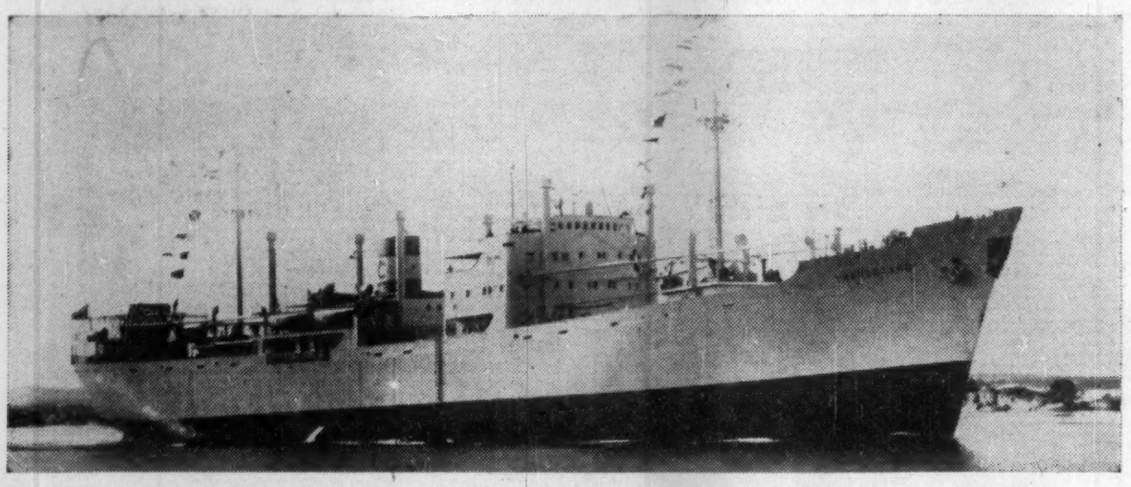
A Pulse of Industrial Power...



By 1958 hydro power will hum from St. Lawrence generators at this nerve centre, the great dam-and-lock system near Cornwall

Let's Take a Hard Look at Seaway's Future





Overseas, they're ready...

In the bustling, picturesque harbors of Europe and Britain, hard-headed shipping men are making Seaway plans. To them, the deep-water route into North America's industrial heartland opens golden opportunities. Their fleets of sturdy ocean ships, like the British Manchester Spinner (top) and the Norwegian Thorsgaard, will be churning through the Seaway in quest of profit the day it opens. The U. S., too, has declared the Seaway route a vital link and open to competitive subsidies.

But what about at home?

What will the Seaway mean to the Canadian merchant fleet of Lakers? Will Canada's ports profit by the deep water link? Here is a careful look at our prospects by Eric Axelson, editor of Canadian Shipping, the country's foremost voice on ships, shipping and ship lanes.

By E. R. AXELSON
Edito.
Canadian Shipping

Will the St. Lawrence Seaway become a watery highway to untold Canadian prosperity? Or will it be a costly grave in which the last vestige of the country's maritime industries can come to rest?

Forecasts of both those possibilities have been seen and heard since work on the immense project got under way, and the time has come to take a closer look at the crystal-ball gazings. Their real values should be assessed.

In the early exultation over the Seaway, it was perhaps only natural that a good many people went overboard in their predictions. And predictions were made with carefree disregard for even the most obvious physical and economic factors which in the end will govern the effects of the new deep ship channel between the industrial heart of North America and the rest of the world.

For instance, it used to be a popular theory that Great Lakes ports such as Toronto, Hamilton, Buffalo, Cleveland and Chicago would be greeting Atlantic passenger liners on regular schedules. This was something which obviously tickled the fancy of both those who wrote about it and those who read it and the idea had quite a run.

Later, of course, the prophets scaled down their dreams to meet actual possibilities with regard to the size of ships which could use the Seaway. It was—however reluctantly — accepted that a 27-ft. channel would not admit vessels drawing more than 30 ft.

As expert thoughts began to break through the eager layman ignorance, it was also established that few if any liners could afford the slow 2,200-mile voyage through narrow one-way canals with numerous time-consuming locks.

Cruise to Russia?

It is possible — even highly probable—that some enterprising promoter will arrange for a passenger cruise from, say, Chicago into the heart of Russia soon after the Seaway is open. But anything like that will surely be in the nature of a one-time novelty stunt at fancy fees, and any future passenger traffic to and from the Great Lakes will continue to be carried in cargo-liners.

Another freely made prediction was that new and relocated industries would spring up along the Seaway route like weeds in a neglected garden. In the early days of the project there was hardly a village especially along the river route which did not see itself as an industrial centre with new factories pouring out products for exports at fantastic rates, and populations multiplying every few months.

Such dreams have also disappeared in the light of cold facts of business life. Even in places with already established industries of considerable sizes, the advent of the Seaway is regarded hard-headedly. At this time, few are jumping at illusions.

What is the real picture?

There is nobody better qualified to answer that question than the Hon. Lionel Chevrier, president of the St. Lawrence Seaway Authority. In frequent speeches on the subject, Mr. Chevrier has in fact offered replies covering most of the different aspects to the questions on Seaway effects.

Quoting some of them should give a pretty accurate view of what to expect.

Chevrier Speaking

- "The Seaway is essentially an inland waterway and can never be anything else."
- "One has only to glance at the variety of new industrial projects set in motion under the stimulus of the Seaway to realize that no premium is held to exist on locations above or below the Seaway."
- "It can be hoped that this widening and lengthening of our economy's Main Street will be favorable to the wider dispersion of industry."
- "The co-ordinated use of highway, railroad and water transport can put inland cities and towns on the water's edge."
- "With the co-ordination of the different means of transportation now moving out of the experimental stage, we are undoubtedly on the verge of a new period of development in transport techniques . . ."
- "The Seaway, by opening new opportunities to heavy industries and others for whom water transportation is important, will set up a chain reaction that will reach to other industries and localities . . . the opportunities for new or expanded secondary industries throughout Seaway territories will be much enhanced."

Another important point made by Mr. Chevrier is that the Seaway must be financially self-supporting — in the same category as the Suez and Panama Canals. But unlike those two, the Seaway will be paralleled by railway and road routes, thus preventing any monopolistic tendencies and providing an element of competition which is an essential stimulus to commercial success.

Bulk Cargoes

Finally, it has on many occasions been stressed by Mr. Chevrier that as much as three-quarters of the total Seaway tonnage would comprise bulk cargoes such as grain, ore, coal and petroleum products.

Mr. Chevrier, of course, has not been alone in making authoritative predictions on the effects of the Seaway.

Earlier this year, S. W. Fairweather, vice-president of the CNR Research and Development Division, offered as his considered opinion that "the development which will result (from the Seaway) will be greater by far than the economic empires which have grown up in the U. S. after the linking of raw materials in various parts of that nation."

Mr. Fairweather went on to describe the Great Lakes as "another Mediterranean" — a sea bordering Europe, Asia and Africa and acting as a "highway between the wealth of each continent."

Similar, although perhaps slightly more guarded comments have been made from time to time by the Hon. George C. Marler, Minister of Transport, as well as many others in both Government and private industry.

Opinions to the contrary have been less frequent and have as a rule referred to strictly local effects. Perhaps the most controversial of such statements was made only last month by two University of Toronto professors, geographers Dr. Donald Kerr and Dr. Jacob Spelt.

They said, at the annual meeting of the Canadian Association of Geographers, that "marine aspirants such as Sarnia, Hamilton and other Great Lakes ports will not see an appreciable increase in shipping tonnage as a result of the St. Lawrence Seaway."

Only Toronto would derive direct benefits from an increased traffic volume, but still not enough to challenge Montreal's position as Canada's premier inland port.

The Challenges

It is not strange that these statements were challenged.

Mayor W. C. Nelson of Sarnia said his city "will benefit substantially from the deep Seaway."

George S. Mooney, director of the St. Lawrence Municipal Bureau and chief spokesman for that city on Seaway matters, suggested there would be "increasing activity in all Great Lakes ports. But it will be progressive and will not happen all in one shipping season."

In connection with the Port and City of Montreal—on which perhaps the most immediate effects of the Seaway will become apparent—the then president of Montreal Board of Trade, F. G. Ferrabee, said last year that "our Board believes that Montreal has not yet found the most effective formula for dealing with the many problems raised by the Seaway and that immediate steps should be taken to organize ourselves in the best possible way, so that effective action can be taken."

It was as a result of this and similar recommendations that the St. Lawrence Municipal Bureau was set up under Mr. Mooney.

The Bureau has already made several recommendations and is in almost constant negotiations with the Seaway Authority, the Federal Government and the CNR with a view to implementing various plans for Seaway projects in the Montreal area where many important physical changes will take place.

Civic and business authorities elsewhere are now also in a position to look forward to the Seaway completion with something more substantial than a crystal ball to guide their thinking. It is, therefore, significant that nowhere are any definite plans being made.

No Interest

In some few places there is really no active interest shown at all. Elsewhere, plans are being formulated—sometimes on a fairly grandiose scale—but the attitude is one of "Let's wait and see" rather than "Let's get going."

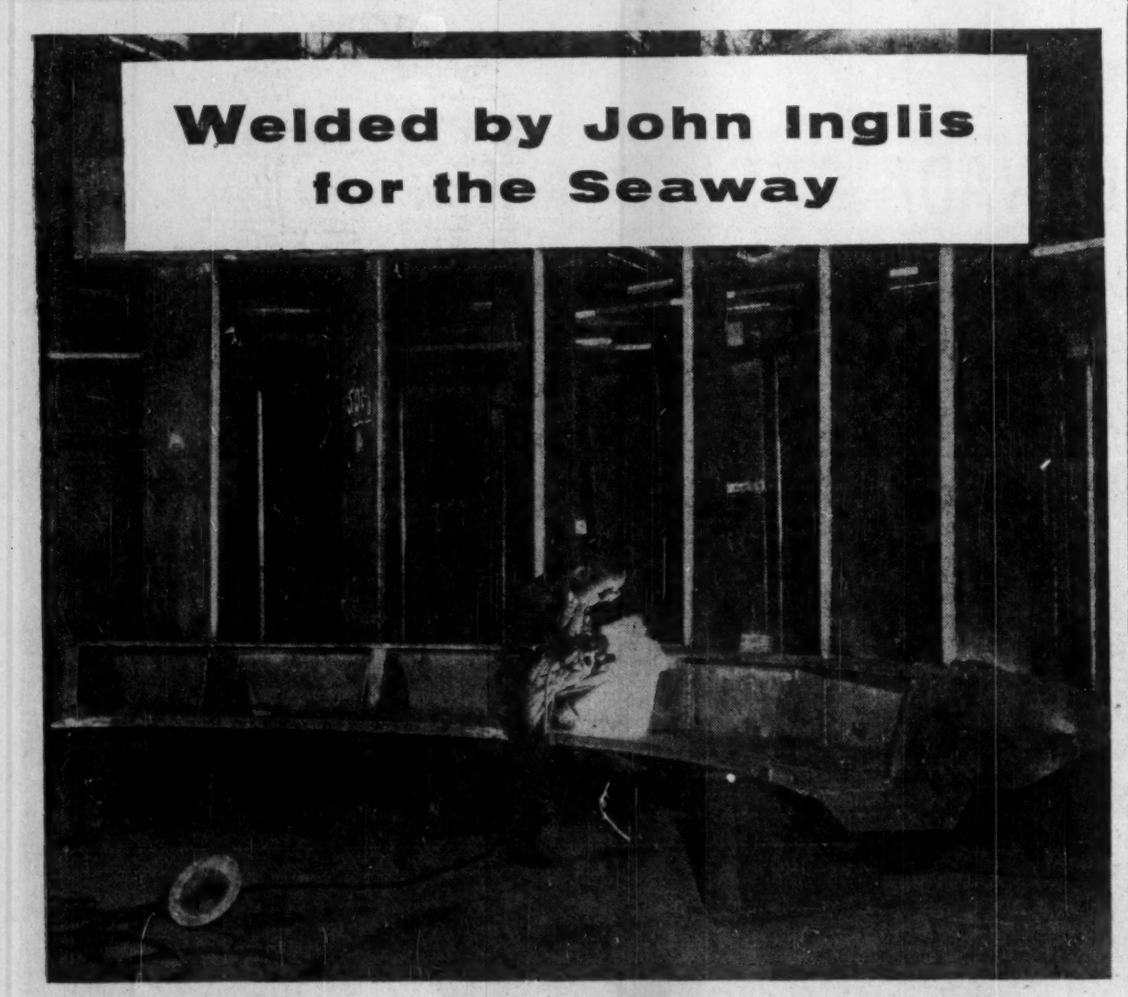
Cities like Sarnia and Kingston, for instance, with close co-operation between municipal councils and business organizations, have port projects on paper which, if realized, could eventually make them competitive with currently more solidly established ports such as Toronto and Hamilton.

But a lot of money is involved in all such programs and the general feeling is that nothing really important will be done until the Seaway is in operation and a more definite trend in traffic and trade changes can be seen—more definite, that is, than anything as yet indicated.

In Toronto and Hamilton, port authorities are evidently content to let nature take its course: go along with the requirements for improved facilities as dictated by current factors, and to stay just enough ahead of demands to avoid congestion and delays in ships' turn-around, cargo handling and distribution.

The City of Windsor has its own very specific problems in assessing the effects of the Seaway, but to its credit it can also be said that there is an acute awareness of these problems and strong efforts are being made to arrive at some sort of conclu-

(Continued on page 33)

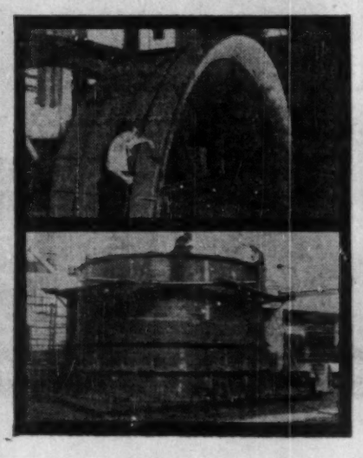


...WITH L.A.'S ATOM ARC ELECTRODES

Important heavy equipment, like this for the St. Lawrence Seaway Power Project, must meet the highest engineering and construction standards. Sixteen complete English Electric turbines, each including these large speed rings, discharge rings and draft tube cones now under construction by the John Inglis Co., Toronto, are being welded with L.A.'s Atom Arc 7016 electrodes.

Like other heavy industrial fabricators who insist on the best, John Inglis chose L.A.'s Atom Arc electrodes for this Seaway equipment, because of their essential advantages of highest physical properties, X-ray quality weld metal and high deposition rates. Atom Arc electrodes also largely eliminate the necessity for preheating before welding such heavy steel sections.

L.A.'s Atom Arc electrodes are now in wide use all over Canada for structural and fabricated equipment welding operations. Make Atom Arc your first choice too! They are immediately available from any L.A. Branch, Warehouse or Dealer.



Canadian LIQUID AIR Company
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BRANCHES, PLANTS, DEPOTS AND DEALERS — COAST TO COAST

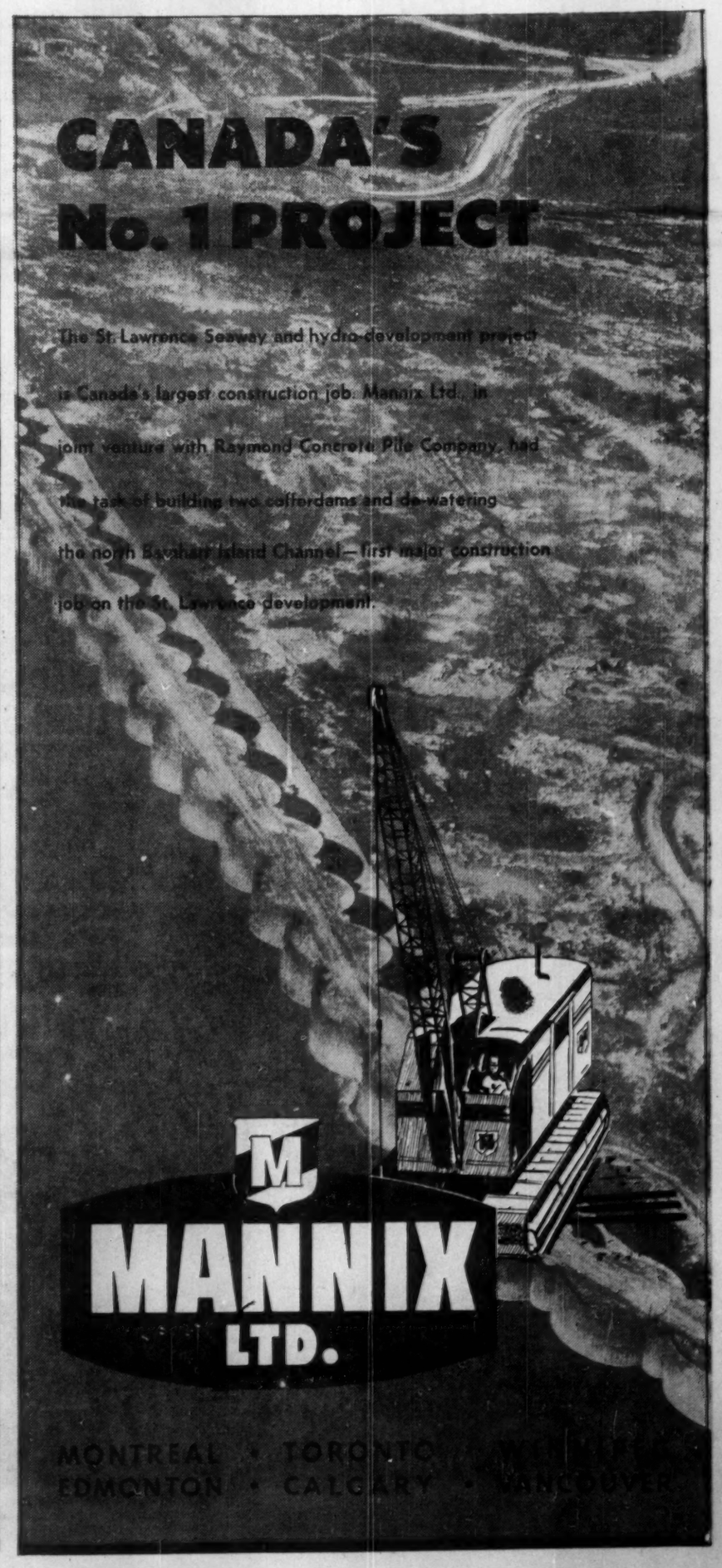
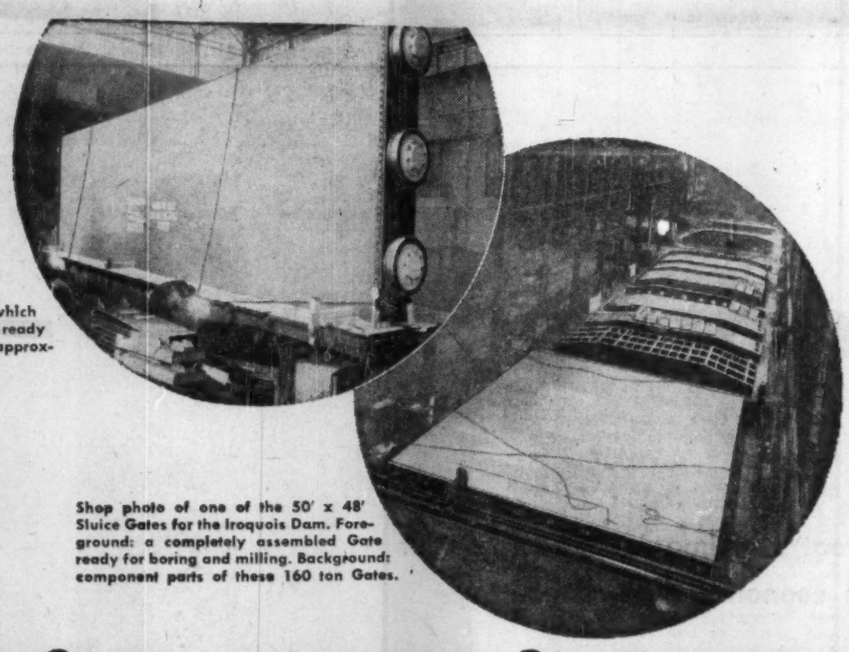


Photo by Photographic Survey Corp.

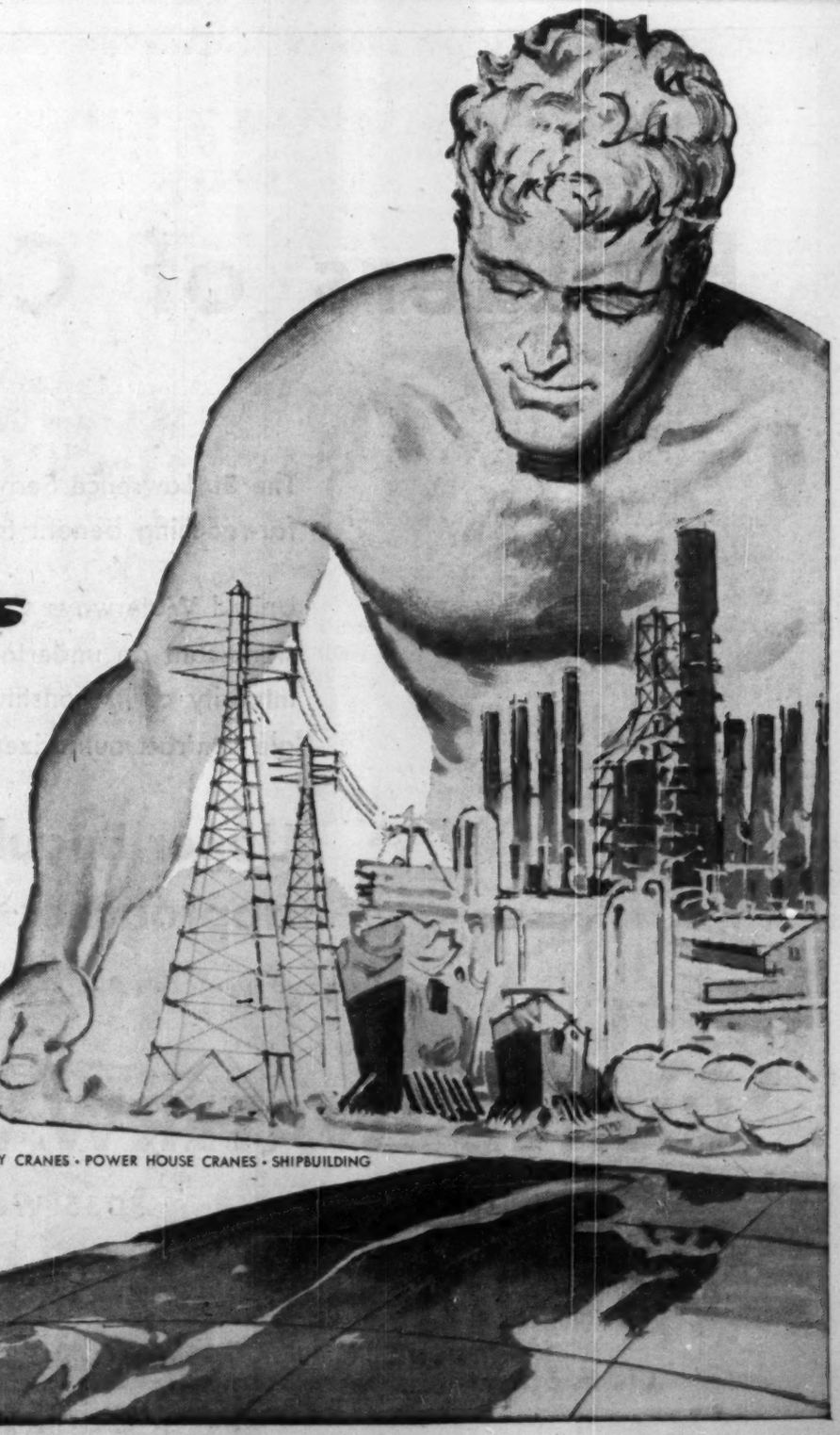
The Big Move

Whole towns must be moved to make way for Seaway flooding, creating one of the biggest mass moving jobs in Canadian history. Here the new Iroquois grows on high ground (foreground), the old hugs the present river bank beyond.



One of four sections which compose each Gate, ready for shipment. Weight approximately 40 tons.

Shop photo of one of the 50' x 48' Sluice Gates for the Iroquois Dam. Foreground: a completely assembled Gate ready for boring and milling. Background: component parts of these 160 ton Gates.



Playing a part in progress

Participation in the development of the St. Lawrence River for deep sea Navigation and Power Generation to benefit two great nations, is a privilege highly prized by Canadian Vickers Limited. Being entrusted with the manufacturing of the largest Welded Sluice Gates ever built, Drum Gates and the Lock Gates' operating machinery to be installed in this, the most ambitious engineering project in all history, bespeaks the confidence placed in the plant facilities, the meticulous engineering and the skilled craftmanship offered by Canadian Vickers Limited.

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Seaway Power 'Mortgaged' Now But Ontario Hydro Has Plans

Beginning 1958 the St. Lawrence River will produce another 1.1 million horsepower of hydro-electric power for Ontario.

But the 820,000 kilowatts are already "mortgaged", according to Hydro officials.

The reason: Expansion in Ontario, which by 1980 is expected to need a whopping 15-million kw over and above the St. Lawrence output.

To do this, Hydro is making plans.

Here's the story:

The way you need next month's pay cheque, Ontario Hydro needs the power to come from the St. Lawrence project. It's as simple as that.

And, as you might gather, Hydro needs more power after that, the way you need more pay cheques.

The reason: changing Ontario.

Here's what happened just between 1945 and 1954:

- population increased by 26%
- gross value of manufactured products increased by 109%
- employment in manufacturing increased by 17%
- gross value of agricultural products increased by 45%.

These changes meant demands for 100% more electric power. Hydro found its primary power requirements rose from 2.5 million horsepower to 5 million — because, it's convinced, the 2.5 million was so cheap it boosted normal growth.

Hydro had plans to handle the growth. "Toward the end of World War II," Hydro Chairman Dr. Richard L. Hearn told the Gordon Commission last January, "it was obvious that with the cessation of hostilities, Ontario Hydro would have to launch a program of further extensive expansion. . ."

By the end of 1955, Hydro had jumped its peak capacity 134% from 1945's to 4.5 million kw. In the 10 years, 14 of 18 new power sources had been brought into service.

The St. Lawrence Power Project, one of the then-remaining four, begun Aug. 10, 1954, will bring another 820,000 kw to Ontario (New York state gets the other half) by 1960. The first "sparks" will be due in the summer of 1958.

But the Seaway's Power Project was thought of first way back in 1913, just seven years after the Hydro-Electric Power Commission was formed. And its various stages of development are spread through Hydro's half-century of life since.

Hydro came into being because coal and wood could no longer provide enough power, and because the Ontario legislature became convinced the prospective publicly owned utility could provide low-cost electric power by first harnessing Niagara Falls.

The first step toward forming Hydro was taken, unknowingly, by the Toronto Board of Trade in 1900. It appointed a committee to report on the question of power generally. On that committee were W. E. Massey, Elias Rogers, William Stone and A. E. Kemp, men who were described as having "left their mark on the commercial and industrial life of Toronto."

April 25, 1900, the committee reported: "While electric power is not the all-important inducement in procuring new industries that is generally supposed, your committee believes that cheap electric power would be a great boon . . . our hope is to bring the current from one of the great Niagara generating plants."

In the following months, more meetings were held by various groups. Interest was stimulated in 1903 by the Ontario Government of Prime Minister G. W. Ross.

Highlights of that year:

—The City of Toronto's application to the legislature for the right to generate and transmit Niagara power was refused.

—A meeting was held at Berlin (now Kitchener). Sixty-seven civic and industrial leaders began a "power lobby." Among them was Mayor Adam Beck of London, also an MPP.

—The Ontario Government promised to give municipalities the right to transmit power from Niagara Falls, then appointed a committee to look into municipal ownership and operation of public utilities, later passed enabling legislation.

—Passed an act creating a "Hydro-Electric Power Commission of Inquiry" which in turn produced five reports on various provincial power sites.

Hydro Formed

May 14, 1906, Hydro was formed by provincial act. Adam Beck was the first commission chairman.

Historic dates and events:

1907. The Commission contracted to buy up to 75,000 kw from the Ontario Power Company. It began its first building program — $3.6 million for its own transformer stations and transmission lines to contracting municipalities.

1908. Fourteen municipalities agreed to take a total of 19,571 kw of electric power from Niagara Falls. Their names: Berlin, Galt, Guelph, Hespeler, Ingersoll, London, New Hamburg, Preston, St. Mary's, St. Thomas, Stratford, Toronto, Waterloo and Woodstock.

1910. Berlin got its power Sept. 29, the official ceremonies Oct. 11.

1912. First systematic measurement of stream flow was started. Hydro also took over electrical inspection from the Canadian Fire Underwriters Association, adding protection against shock hazards.

1913. Strachan Avenue (in Toronto) Research Laboratory was built.

1914. First development (capacity: 750 kw) at Wasdells Falls on the Severn River began operating.

Preliminary surveys taken of Niagara Falls.

Acquisition of Big Chute Generating Station (4,300 kw on the Severn River through acquisition of properties of Simcoe Railway and Power Co.

1916. Ontario Government purchased the assets of the Electric Power Co., including the Peterborough Radial Railway.

The Commission moved into the administration building on University Avenue in Toronto.

Bought Plant

1917. Hydro bought the 183,000 hp plant of the Ontario Power Co., source of its original power contract, at Niagara Falls. Capacity was 119,400 kw, later increased to 135,000.

Construction begun of the Queenston - Chippawa development (now known as the Sir Adam Beck-Niagara G.S. No. 1 —capacity 392,000 kw.

1919. The Prince of Wales inaugurated the first (81) floodlights on the Horseshoe Falls, Oct. 18.

1920. First unit (10,000 kw) of the Cameron Falls plant on the Nipigon River was put in service.

1921. Queenston - Chippawa plant opened. It was then the world's largest.

1922. Toronto Power Co. and its interests bought (147,000 hp at Niagara Falls).

Ranney Falls generating station (8,350 kw) on the Trent River began operating.

(By the end of 1922, Hydro's resources totaled 496,000 kw. Demand was up from 4,000 in Hydro's first year, 1906, to 460,700 kw.

1923. Construction begun on the Bingham Chute development (900 kw) on the South River.

The annual report of the Commission stated that "delay in securing permission to start construction of the St. Lawrence Project must result in accentuating the power shortage that was rapidly materializing."

1925. Sir Adam Beck died, was succeeded by Charles A. Magrath.

Construction begun on the Hanna Chute (1,200 kw) on the South Muskoka River.

1926. Hydro signed long-term contract with the Gatineau Power Co., for 194,000 kw of 25-cycle power. First power was delivered in 1928 after a 220,000 volt Ottawa-Toronto transmission line was built.

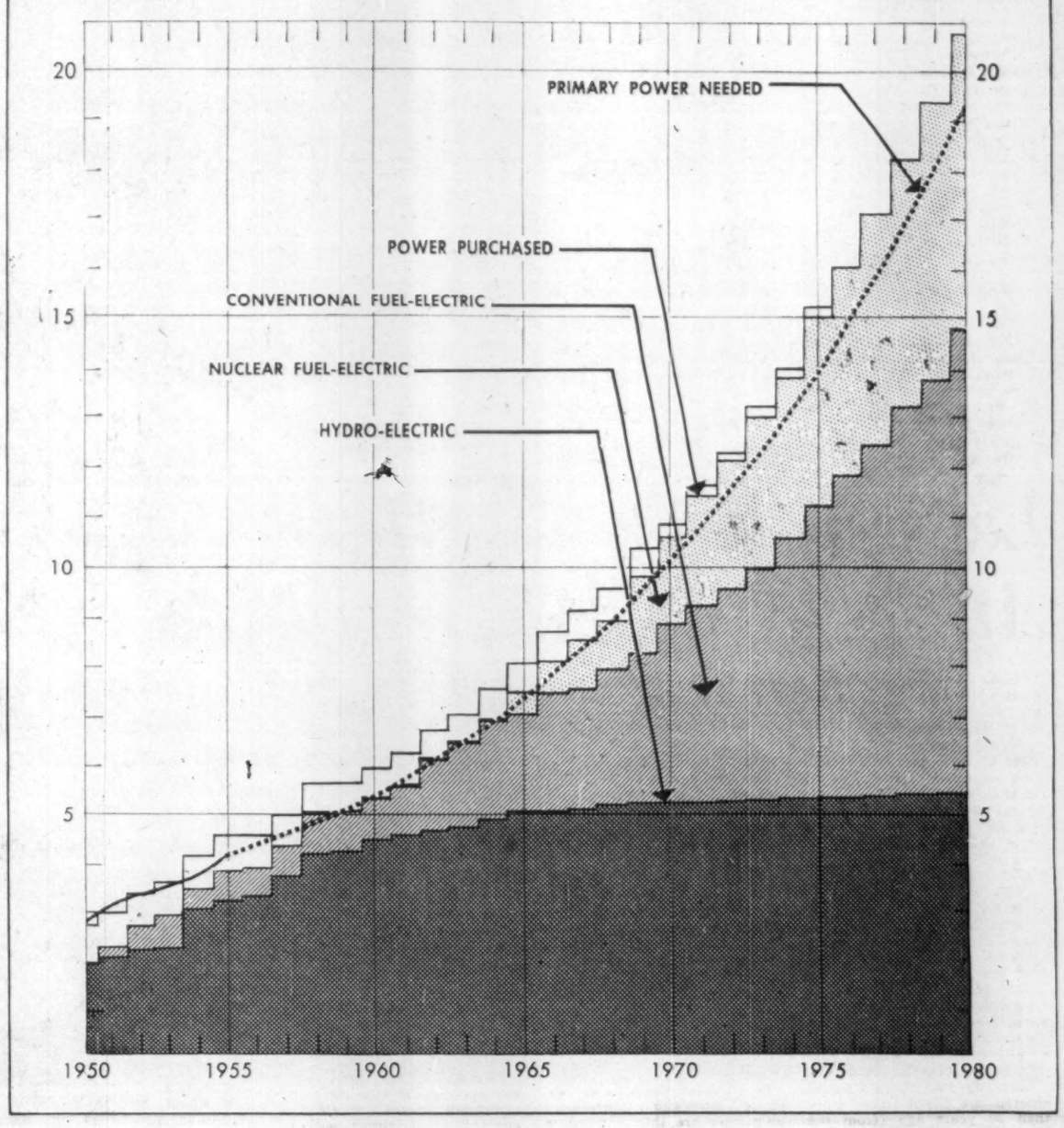
Construction begun of the Alexander development (49,600 kw) on the Nipigon River.

1938. Toronto-Leaside transformer station opened to handle power from Quebec.

1929. Hydro contracted to buy

(Continued on page 33)

POWER: THE NEXT QUARTER CENTURY



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Gobble Up Seaway Power Soon, Ontario Hydro Plans For '80

(Continued from page 32)

186,500 kw from the Beauharnois Light, Heat and Power Co.

Hanover generating station (220 kw) on the Saugeen River was bought from the Canada Cement Co.

Trethewey Falls generating station (1,600 kw) on the South Muskoka River went into operation.

Bala Electric Co.'s two generating stations (totaling 350 kw) on the Muskoka River bought.

Elliott Chute generating station (1,400 kw) on the South River put in service.

Acquired majority interest in Wahnapitae Power Co. serving Sudbury and surrounding mines with three generating stations totaling 12,000 kw.

Ear Falls (20,600 kw) on English River put in service.

1930. Dominion Power and Transmission Co. bought.

Began construction (with Ottawa Valley Power Co.) of 164,000-kw development at Chats Falls on the Ottawa River.

Acting Hydro Chairman J. R. Cooke, who succeeded Charles Magrath the next year, announced purchases in the late 20s and construction would make Hydro resources total 1,492,000 kw by 1937.

1933. Flat-rate water heating begun.

Assumed operation for Ontario Government of Abitibi Canyon development (181,000 kw) on the Abitibi River and the transmission line system formerly the property of Ontario Power Service Corp.

1934. T. Stewart Lyon succeeded J. R. Cooke as chairman when Hepburn government came into power.

1935. Quebec power contracts canceled.

1936. Quebec power contracts, short-term, signed with Maclaren-Quebec Power Co. (29,800 kw) and with Gatineau Transmission Co. (194,000 kw).

1937. Thomas H. Hogg succeeded T. Stewart Lyon as chairman.

Quebec contracts revised and renewed.

1940. Ten additional office floors and two penthouse floors were added to the six-story administration building on University Avenue, Toronto.

1941. Work started on the second DeCew Falls development (122,000 kw) on the Welland Canal.

1945. Northern Ontario Power Co. bought.

A 57,000 kw addition to the DeCew Falls plant.

Work started on a 63,000 kw Stewartville development on the Madawaska River near Arnprior.

A 57,000 kw addition to the DeCew Falls plant near St. Catharines. Water used at both the old (1898) and new generating stations is drawn from the Welland Ship Canal, carried over the Niagara Escarpment to the turbines. Use is made of the greater part of the 326-foot difference in level between Lake Erie and Lake Ontario. Construction cost to the end of 1952 was $8 million.

Work started on a 63,000-kw Stewartville development on the Madawaska River near Arnprior. It went into operation in 1948. Construction cost was $11.7 million.

1946. Construction begun on the Aguasabon development (44,000 kw) on the Aguasabon River at Terrace Bay on Lake Superior. Cost was $12.7 million.

Work started on the Ear Falls 6,000-kw extension in the Red Lake-Sioux Lookout area near the Manitoba border. Cost was $1.8 million.

Beginning made on the Des Joachims 380,000-kw development 38 miles upstream from Pembroke on the Ottawa River. All eight units went into service early in 1951. Cost was $73.3 million.

1947. Dr. Hearn became general manager and chief engineer.

Construction begun on the George W. Rayner 47,000-kw generating station on the Mississagi River near Sault Ste. Marie. Cost was $18.3 million.

Pine Portage

Construction begun on the Pine Portage 168,900-kw generating station, largest in the Lakehead area, on the Nipigon River, 73 miles northeast of Port Arthur. Its dam is 3,000 ft. long, 140 ft. high, 12 ft. wide at the top. Normal head is 105 ft. Cost was $26.9 million.

1948. Construction begun on the Chenaux 120,000-kw development 60 miles downstream from Des Joachims. It has three dams totaling 4,000 ft. Operating head is 40 ft. Cost was $28.9 million.

Robert H. Saunders succeeded Dr. Hogg as chairman.

During the year, drought cost Hydro more than 100 million kwh, reduced power resources 17% below normal dependable capacity. There were "brown-outs" and power cut-offs. Hydro stepped up its expansion program.

1949. Changeover from 25- to 60-cycle power begun. Reason was to put Ontario on a system similar to northern U. S.'s, Quebec's and Manitoba's. Interconnection will come.

Helicopters first used to inspect transmission lines.

Work started on the J. Clark Keith generating station (named for a Windsor Utilities Commission general manager) designed to produce 264,000 kw. It's Hydro's second largest fuel-electric plant. Final cost is estimated at $48.9 million. The Detroit River provides water for cooling the coal-produced steam.

Construction begun on the Otto Holden (named for Dr. Holden, Hydro's chief engineer) 204,000-kw generating station. It's on the Ottawa River five miles north of Mattawa. Head is 77 ft.; cost was $60.3 million.

Emergency fuel units (total capacity 47,000 kw) put into service at Hamilton, Scarborough and Thorold.

Construction of the Richard L. Hearn steam plant (400,000 kw) in Toronto started. It's Canada's largest fuel-electric generating station. It's designed to meet system peak loads especially when there are low river levels. Each of four steam turbine-generators weighs 590 tons. Cost: $60 million.

1950. Canada and the U. S. ratified the Niagara Diversion Treaty. Under it, the two nations began a $17.5 million program to get more power out of the Niagara Falls. The treaty provides that the water flow over the Falls will be 100,000 cu. ft. per sec. during daylight hours of the tourist season and 50,000 cu. ft. at other times.

Hydro began construction of Sir Adam Beck-Niagara generating station No. 2. Ultimate installed capacity: 1.37 million kw. Features of Hydro's biggest-ever project: two 45-ft. diameter tunnels 330 ft. under the city of Niagara Falls carry water 5.5 miles; cost: $343.7 million.

1952. Dr. Hearn became director of Atomic Energy of Canada.

1953. Construction of the Manitou Falls (56,200 kw) development on the English River started. Cost: $18.5 million.

1954. First sod of St. Lawrence Project turned.

1955. Hydro Chairman Robert H. Saunders killed in air crash near London, Ont. Dr. Hearn appointed chairman.

Hydro commission enlarged to six members to approximate numbers of directors in large industrial corporation.

Application made to Atomic Energy of Canada to participate in building small 20,000 kw nuclear power plant. Application accepted by Federal Government and plant to be built near Hydro's Des Joachim's generating station.

Another Plant

Announced building of 54,000 kw generating station at Whitedog Falls on Winnipeg River to be ready by late 1957. Cost: $19.2 million.

1956. Four additional 75,000 kw units to be added to Sir Adam Beck No. 2 and one 200,000 kw unit added to Hearn thermal plant.

New plant at Caribou Falls on English River. Cost: $28.5 million.

The 1956 decisions were made "in the light of rapidly rising demands" for more power — 14.3% up over 1954 demands, double the average long-term growth.

As Dr. Hearn told the Gordon Commission: "Ontario Hydro's obligation to meet the growing demands for power has called for a flexible policy on the development of resources and for continuing studies on the overall prospects for the economy of this province."

Hydro has, in fact, made two studies and hopes both indicate the trend for the next 25 years.

The studies show:

- A period of transition for Hydro.
- By about 1968 thermal generation will almost equal hydraulic generation.
- After 1968, resources will become "predominantly" fuel-electric.
- By 1980, Hydro's resources will be up to 23.6 million kilowatts, up from the present 3.2 million developed in twice as long a period.
- A growth rate of 6.56% is predicted from 1961 to 1980.

Dr. Hearn said, significantly: "You will notice in these studies that a new trend begins in 1965. We assume that nuclear fuel-electric stations will be more economical for base load operation than conventional fuel-electric generation."

MEN AND MACHINES hack out the Seaway channel at St. Lambert, opposite Montreal. This photo looks upstream towards Victoria Bridge, which must be lifted to permit lakes-bound ships to pass up the channel when completed.

Let's Take Long Hard Look At Seaway's Future Effects

(Continued from page 30)

sions while there is still time to act upon them, if necessary.

Lakehead Benefits

At the Lakehead, the twin cities of Port Arthur-Fort William appear to expect certain benefits from the Seaway. But again, no one seems to be getting too excited over the prospects, one way or another, and no specific prophecies are coming out of that area.

With some exceptions, it is quite noticeable that Canadian expectations anent the Seaway have simmered down to a realistic level. What do our overseas friends think?

The best indication to the answer is, of course, the preparations now being made to meet the challenge and possibilities of a vastly improved water transport route into this continent.

Since the first foreign vessel entered the Great Lakes more than 20 years ago (from the Norwegian Fjell Line), there has been steady progress in regular shipping services—a quite normal development in a new business area.

But since the Seaway became a certainty, that progress has been almost spectacular and all information at hand points to a very great and rapid further increase in the tempo.

In 1955, no less than 20 different shipping lines had 110 ships calling at Toronto, handling cargoes to and from 19 different countries. If that is impressive, look what is coming:

- Almost every line now operating into the Lakes is ordering new ships of Seaway specifications.
- New lines are entering the Great Lakes services continually and where they are using vessels recently built for the trade, they are invariably so designed that they can be enlarged by adding 30-60 feet to the hull on or before the Seaway opening date in 1959.
- Ore carriers for the Labrador iron ore trade are even now being put to work, delivering their cargoes at Contrecoeur near Montreal, but later designed to continue to inland ports.
- Finally, in the U. S. the Seaway has been declared an "essential" route and qualified shipping lines are thus entitled to operating subsidies for trade with overseas ports. In recently announced shipbuilding plans, a substantial number of vessels are included for services through the Seaway.

No doubt, then, that the effects of the Seaway are thought to be considerable. Just a word of caution, however. And we base this on the already quoted statement by Mr. Chevrier as to the nature of the Seaway: it is strictly an inland waterway and as such it has definite limitations with regard to capacity which in turn are governed by financial considerations.

Last year, the present St. Lawrence canal facilities handled about 17 million tons of cargo of which much nearer 10% than 75% was bulk. The capacity of the completed Seaway has been said (also by Mr. Chevrier) to be about 33 million tons a year. The consensus among shipping men and freight forwarders is that package freight will not go much beyond five million tons annually, at least not for a long time.

That, then, means that to operate at capacity or nearly so, bulk freight must reach a volume of 25-28 million tons.

Where will it all come from?

To some the answer is easy—too easy: grain and ore.

But so far there is no absolute guaranty that either will be available in sufficient quantities. Especially with regard to the iron ore, there looms the matter of tolls.

W. H. Durrell, executive vice-president and Canadian general manager of Hollinger-Hanna Ltd., said not long ago that "the level of tolls to be levied on shipping through the Seaway will govern the amount of Quebec-Labrador iron ore that can economically be shipped through to inland ports and nearby steel mills."

Competitive Pricing

The extent of inland ore shipments will depend on whether the tolls will "permit our companies to lay down Quebec-Labrador ore at prices competitive with Lake Superior ore," he said.

In any case, even the total production at the Knob Lake development would not now come even close to saturating the Seaway capacity, nor is it likely to do so even when expected top production figures (20 million tons) have been reached. In 1956, some 12 million tons will be taken out through the Seven Islands port and of that, eight million tons will go to east coast ports, two million to Europe and only two million to inland ports.

It would involve a pretty revolutionary change in the traffic pattern to switch the necessary tonnage to the Seaway all of a sudden, even if the toll rates are favorable. There isn't much doubt that they will be, of course, but steel mills on or near the Atlantic seaboard will still need their large portion of the Knob Lake total production.

The grain cargoes will increase substantially over the present volume. No matter what the tolls, it can be taken for granted that the through shipping rate from Lakehead to lower river export ports will show a reduction in present rates of probably around 5c a bushel, enough to induce grain shippers to avail themselves of every opportunity to ship via the Seaway.

But again there are limits as to how much more than at present can be handled—apart, of course, from the size of the markets. One such limiting factor is the capacity of the canal locks.

It is one which is not likely to be changed and using present canal ships as the standard, it is physically impossible to lock through more than some 22 million tons during a season. And that is on the assumption that one ship goes through every 40 min., 24 hours for eight months, without delay of any kind.

Boon to Economy

To sum up, there is every reason to suppose that the new St. Lawrence Seaway is destined to be a boon to the national economy as a whole and, specifically, to all the vast areas which lie within hailing distance of its route.

It will not all come to pass overnight, might in fact take quite a number of years before the full effects are showing.

Some cities and districts are likely to feel the benefits much sooner and more emphatically than others; and some others may not find any change at all directly attributable to the Seaway.

At the same time, even where the impact should be most felt, only time and actual events will prove how fast it will come and how far it will reach.

Water transportation is still the cheapest form of carrying goods from one place to another and in providing the means for vast expansion in this respect, the St. Lawrence Seaway will inevitably make a highly important contribution to the future prosperity of Canada.

Business, economical and industrial developments, throughout the history of civilization all over the world, have always followed close behind every improved means of communication.

The Seaway is the newest and in many respects most impressive link between the world's richest industrial area and its far-flung markets and there is every reason to assume that history will again repeat itself.

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These Firms Building Our Share of Seaway

LACHINE SECTION

Job	Contractor	Completion Date	Amount $
Downstream of Jacques Cartier Bridge, to Montreal Harbor, excavate 4,900 ft. long section, 2 million cu. yds. of material, including 500,000 cu. yds. of rock.	Miron & Frères Ltée., Montreal, Que.	Nov. 30, 1957	1,768,900
Construction of permanent water intake for municipalities of Longueuil and Jacques Cartier.	Atlas Construction Co., Montreal	Dec. 15, 1955	120,898
Dredging St. Lawrence river at two points in Montreal harbor—one mile below Jacques Cartier bridge, and two miles further downstream — to link harbor with canal, and create turning basin. Some 3.2 million cu. yds. of overburden are to be dredged, and 100,000 cu. yds. of solid rock removed.	Marine Industries Ltd., Montreal.	Aug. 31, 1958	10,636,000
Construction of 3,300 ft. pipeline for water intake of municipalities of Longueuil and Jacques Cartier, to be of reinforced precast concrete pipe, supported on concrete.	Miron & Frères Ltée., Montreal.	Oct. 31, 1956	535,200
Permanent raising of Jacques Cartier bridge and replacement of two spans to provide 120 ft. clearance for ships.	Dominion Bridge Co., Montreal.	Oct. 31, 1958	6,989,750
Enlarging Piers 1 to 11, Jacques Cartier bridge.	Atlas Construction Co., Montreal.	Sept. 30, 1956	779,267
Excavation of 7,600 lin. ft. of Seaway channel and construction of dyke between Jacques Cartier and Victoria bridges.	McNamara Construction Co., Peacock & McQuigge Ltd., Pigott Construction Co., all of Leaside, Ont.	June 30, 1957	2,314,500
Construction of St. Lambert Lock and approaches extending 5,000 ft., including removal of 2.4 million cu. yds. of material and placing 405,000 cu. yds. of concrete.	McNamara, Pigott & Peacock	Aug. 31, 1958	7,399,472
Laprairie Basin, construction of 20,000 lin. ft. channel and requisite dyke, of turning basin for ships, and extension of water intake for City of St. Lambert. Contract requires excavation of 2 million cu. yds. of rock, 5 million cu. yds. of common excavation.	Walsh-Canadian Construction Co., Toronto.	Dec. 15, 1957	4,213,800
Adjoining above contract, excavation of 15,500 ft. channel and construction of required dyking, excavation of 1.2 million cu. yds. of rock, 2.5 million cu. yds. of common material.	Northern Construction Co. and J. W. Stewart Ltd., Vancouver.	Aug. 31, 1958	3,279,050
Construction of Côte Ste. Catherine lock and approaches of 10,500 lin. ft., excavation of navigation channel, construction of dykes, of turning basin downstream of the lock, of regulating works for control of water level of upper reach of canal, and formation of reservoir pool upstream of lock.	Canamont Construction Ltd. and Canit Construction Ltd., Montreal.	July 31, 1958	7,107,480
Excavation of 4,200 lin. ft. of part of overland channel along South Shore from westerly limit of Ste. Catherine lock upstream. Necessary excavation includes 340,000 cu. yds. common, 490,000 cu. yds. shale, 800,000 cu. yds. limestone; 100,000 cu. yds. of rock cushion are to be laid on each side.	Miron & Frères Ltée., Montreal.	March, 1956	1,153,000
Continuation of above channel overland to immediately east of Honoré Mercier bridge. Excavation is 14,800 ft. long, involves 19,000 lin. ft. of dyke, 4.6 million cu. yds. of common excavation, 2.9 million cu. yds. of rock excavation, construction of cofferdams and unwatering.	Northern Construction Co. and J. W. Stewart Ltd., Vancouver.	Aug. 31, 1958	4,690,750
Production of concrete aggregates at Beauharnois for use in making concrete for locks at St. Lambert and at Côte Ste. Catherine.	Canit Construction Ltd., Montreal.	.....	2,131,000
Supply of above coarse aggregates to Côte Ste. Catherine Lock.	Miron & Frères Ltée.	.....	1,113,000
Supply of above coarse aggregates to St. Lambert Lock.	Mount Royal Paving & Supplies Ltd., Montreal.	.....	1,009,000
Dredging Lake St. Louis channel, removing 3.8 million cu. yds. overburden and 100,000 cu. yds. of solid rock. Contract involves 10 miles of dredging from easterly end of Beauharnois Canal to just west of Caughnawaga Indian reservation.	Marine Industries Ltd., Montreal.	Sept. 30, 1958	8,219,000
Supply of fine concrete aggregate for use in making concrete in Côte Ste. Catherine Lock.	Standard Lime Co., Montreal.	.....	397,750
Handling of above sand from railway siding to contractor's bin on lock site.	Canamont Construction Ltée and Canit Construction Ltd., Montreal.	.....	181,300
Supplying 205,000 tons of sand for cement making at St. Lambert Lock.	Standard Lime Co., Montreal.	.....	440,750
Handling above sand from railway siding to lock site.	Carrière de Trois Pistoles, Trois Pistoles, Que.	.....	88,150
Excavation of channel and construction of dyke, from 16,000 ft. downstream to 1,000 ft. downstream of Honoré Mercier bridge, Montreal.	Northern Construction Co. and J. W. Stewart Ltd., Vancouver.	Aug. 31, 1958	4,877,700
Construction and verification of hydraulic models of Montreal Harbor and of Lachine Rapids.	Neyrpic Canada Ltd., Montreal.	Summer, 1957	197,900
Construction of building for hydraulic models at Ville Lasalle, Que.	Key Construction and Deschamps & Bélanger, Montreal.	May, 1956	572,492
Supply and erection of Côte Ste. Catherine* and Iroquois† (International Rapids Section) lock bridges, of rolling-lift type.	Bridge & Tank of Canada Ltd., Hamilton, Ont.	*Dec. 31, 1957 †Mar. 31, 1957	801,221

(Continued on page 37)

SeawayBridge Tolls Stirring Truck Battle

One provision of the St. Lawrence Seaway Act already has stirred up controversy in Canada. The problem: bridge tolls.

Canadian Trucking Associations soon will ask the Federal Government to remove what they call "a dangerous and potentially discriminative provision" in the Seaway Act.

This item authorizes the Seaway Authority to levy tolls on freight carried in trucks over a proposed international bridge to span the south channel at Cornwall Island in the St. Lawrence River.

CTA Executive Secretary John Magee, of Ottawa, says the national association will attempt to secure a new amendment to the Seaway Act to bring about the removal "of this objectionable feature of the toll legislation."

The bridge, from Cornwall Island, Ont., to the New York State mainland, was the subject of a CTA statement which emphasized that the trucking industry was willing:

—To pay tolls for the use of the bridge and Seaway-built highway links approaching the bridge.

—To pay the tolls on the basis of loaded and unloaded vehicles.

—To support any reasonable limitation on the weight of vehicle and load as was necessary for the safety of the bridge.

"Surely that is fair," Mr. Magee says. "What more could the Seaway Authority reasonably ask for? But they are seeking more. They apparently want to get at the freight moving in our vehicles and levy tolls on that freight, apart from the vehicle itself. This desire on the part of a transportation facility which will be heavily competitive with the trucking industry is a matter of concern."

Red Herring

CTA's executive secretary says the Seaway Authority had drawn a red herring over the trail in its explanation on May 30 to the Senate Standing Committee on Transport and Communications as to why it was necessary for the Authority to have the right to levy tolls on goods moving in trucks instead of on the vehicles alone.

Appearing before the Committee, Mr. Magee supported powers being given to the Seaway Authority to levy tolls on vehicles entering, passing over, or leaving a bridge or highway under Seaway administration. He asked for elimination of powers to levy tolls on goods moving in the vehicles. The Senate Committee declined to make the amendment after Charles Gavsie, Seaway Authority vice-president, had opposed it.

The red herring alluded to by CTA was Mr. Gavsie's statement that if trucks were to carry explosives over the bridge, and if the power to levy tolls on goods was eliminated, there would be no control over the explosives movement.

"The St. Lawrence Seaway Authority knows that the movement of explosives by truck is already controlled under appropriate Federal legislation — the Explosives Act," Mr. Magee said. "It is subject to further control in the regulations of nearly all of the provinces—including Ontario, where the Canadian section of the bridge spanning the south channel is to be built."

"The Federal and Ontario legislation restricts the explosives load of trucks to 10,000 lb. as compared with a normal freight load, in a vehicle equipped with eighteen wheels, of up to 68,000 lb.

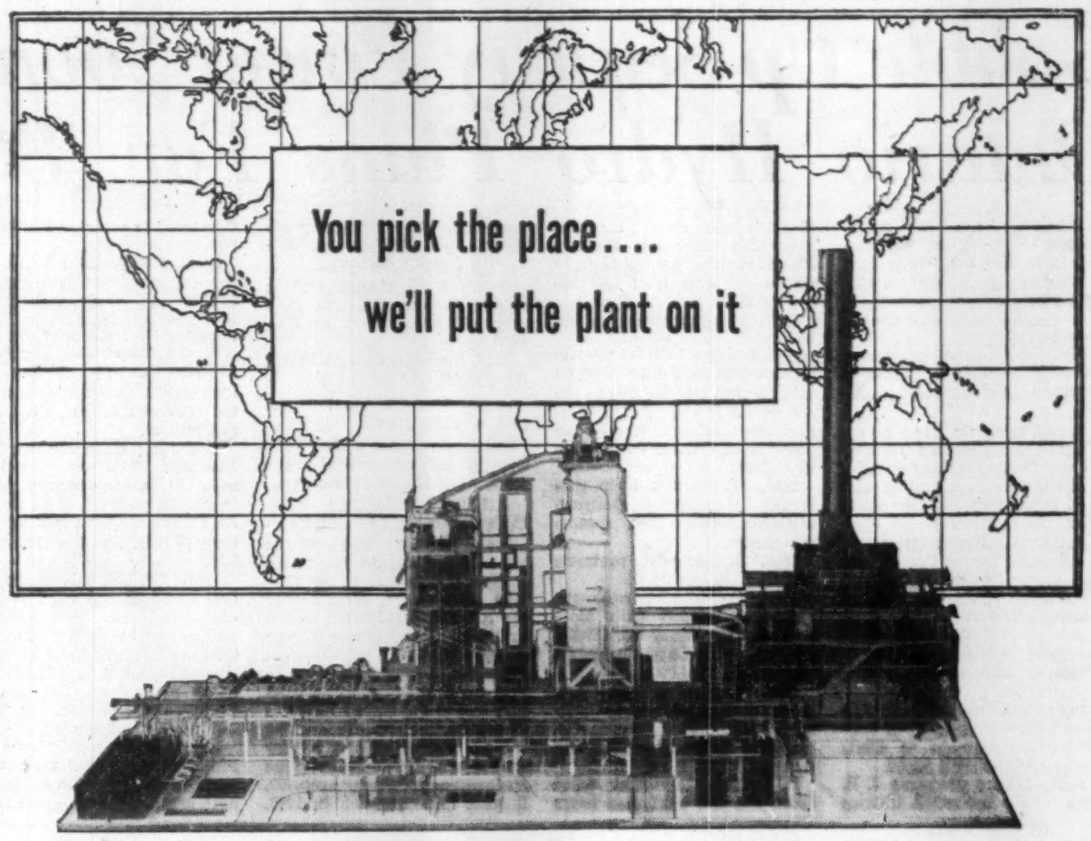
"Wholly Improper"

"If the movement of explosives is to be controlled from the standpoint of safety, the imposition of tolls is a wholly improper way of exercising such control. Tolls have nothing whatever to do with the safety factor.

"Surely the Seaway Authority does not suggest that the existing federal and provincial controls over explosives movement by truck are so imperfect that it is necessary to impose a third control—the Seaway Authority's own private control.

"The St. Lawrence Seaway is a transportation facility competitive with the trucking industry. Truck operators welcome all the benefits which the Seaway will bring to Canadians. We have supported the building of it. We merely ask that there not be this repugnant provision in the Seaway Authority's enabling legislation — the provision that they may levy tolls on goods carried in trucks.

"Let the Seaway Authority be satisfied with a toll on the vehicle itself — based, if they like, on the weight of the vehicle loaded and unloaded. That will relieve them of the responsibility—which they seem anxious to retain—of figuring out tolls based on the categories of freight which move by truck."



In fact, McKee's fifty years of experience in designing and building plants for major industries can be a valuable help to you in selecting the site.

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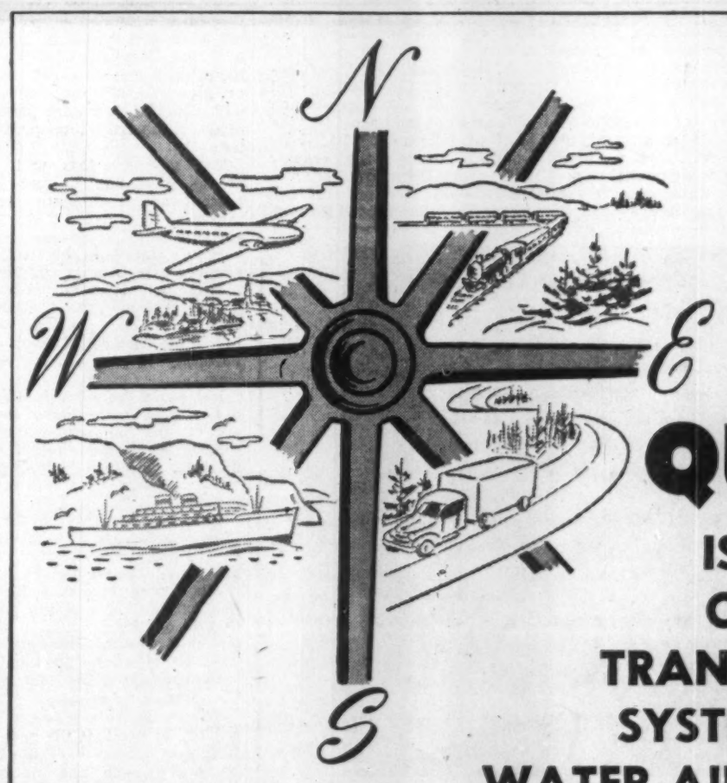


QUEBEC
IS AT THE HUB OF CANADA'S TRANSPORTATION SYSTEMS BY WATER-AIR-RAIL-ROAD

The St. Lawrence Seaway will bring further great advantages to Québec's mines, factories, farms, exporters and importers.

LA PROVINCE DE Québec

For information on industrial opportunities in La Province de Québec write:— Provincial Publicity Bureau, Parliament Buildings, Québec City, Canada; or 50 Rockefeller Plaza, New York 20, N.Y.

Eagle's-Eye View Of Seaway Construction

Photos by Photographic Survey Corp.

Men and Machines

Behind cofferdams, the Long Sault control dam (top left) rises from the dried river bed. Dredges (lower left) clear the 27-ft. channel near Prescott, Ont. Ships pass in the present 14-ft. canal near Cornwall, Ont. (top right), while concrete rises for the Ontario Hydro half of the powerhouse. Earth dikes (lower right) dry the river bed near Long Sault dam and future site of Long Sault canal.

the city of Valleyfield
an area endowed to serve industry

Valleyfield, by virtue of its location on the shores of the St. Lawrence River and its proximity to tremendous power developments suggests the abundance and properties of water facilities. Here are available industrial sites bordered by fast flowing water; a fact of prime importance to industries with corrosive refuse disposal systems.

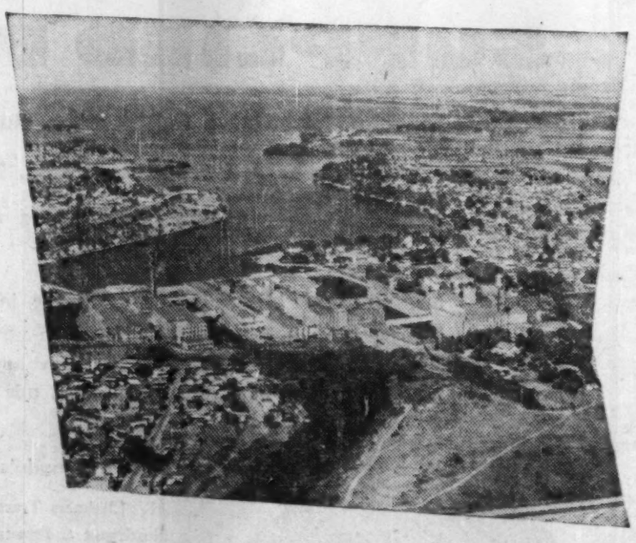
The choice of Valleyfield as an industrial site by three important chemical processing companies in the past few years was due in great part to this most advantageous situation.

Valleyfield is situated between Canada's two largest consumer markets, Montreal and Toronto. The surrounding area includes South Eastern Canada and the State of New York, having a population of over twenty-five million.

Seaway facilities are at the door of Valleyfield, only two miles from the city limits. Ample industrial sites are available in Valleyfield and immediate surroundings to corporations who look forward to establishing a plant along the Seaway.

Valleyfield is truly in the heart of the St. Lawrence Seaway.

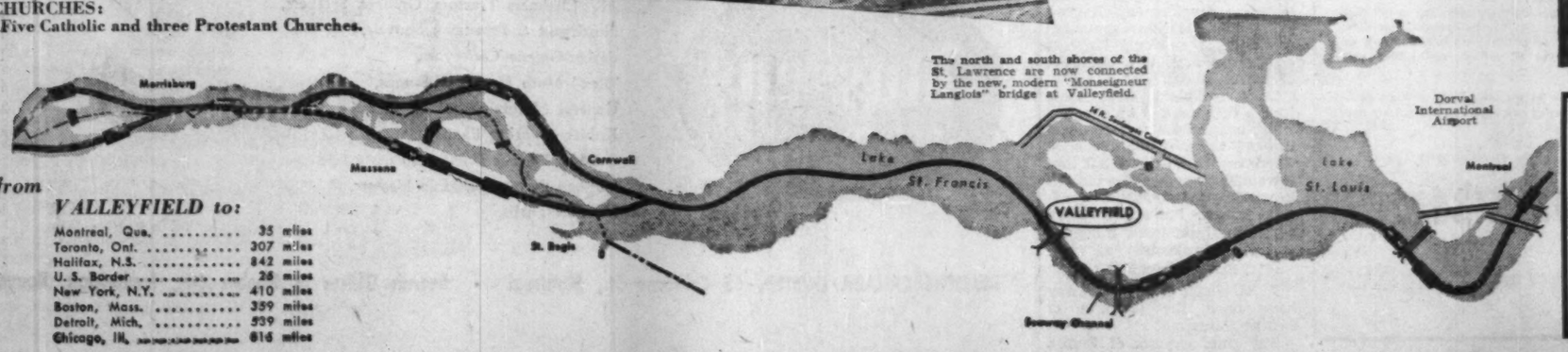
- **POPULATION:**
  25,219 as of January, 1956.
- **LABOR:**
  Industrial wage earners:
  Male: 5,343; Female: 2,716; Total: 8,059.
- **WATER SUPPLY:**
  Daily capacity is 10 million gallons.
  Average consumption is 5 million gallons. Equipped to meet any industrial demand.
- **TAXATION:**
  Rates of taxation per $100 of Valuation:
  Real Estate: $1.10 less 5% for prompt payment.
  School: $1.50 less 5% for prompt payment.
  The total assessed property is $28,644,336.00.
  The funded debt as of January, 1956, is $76.00 per capita.
- **TRANSPORTATION:**
  CNR & NYC Railways provide daily passenger, express and freight service. Also P.T.C. bus service, Colonial Coach Lines Ltd., and Valleyfield Transit. Truck service by Kingsway Transport, Smith Transport and Valleyfield Express.
  Highway facilities between Valleyfield and its surrounding markets are excellent. Highway No. 3, southwest of Montreal, has been completely rebuilt and improved to the U. S. border.
- **CHURCHES:**
  Five Catholic and three Protestant Churches.



- *from*

VALLEYFIELD to:

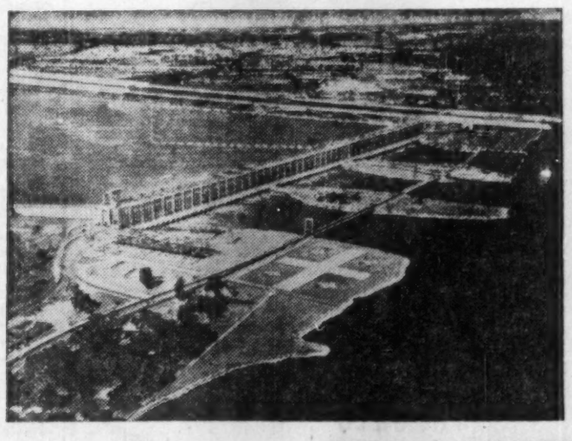
Montreal, Que.	35 miles
Toronto, Ont.	307 miles
Halifax, N.S.	842 miles
U. S. Border	26 miles
New York, N.Y.	410 miles
Boston, Mass.	359 miles
Detroit, Mich.	539 miles
Chicago, Ill.	816 miles



Our Industries

Asten-Hill Ltd.
Beacon Ribbon Mills Ltd.
Canadian Arsenals Ltd.
Canadian Bronze Powder Works Ltd.
Canadian Converters' Co. Ltd.
Canadian Schenley Ltd.
Cipel (Canada) Ltd.
Davison Chemical Co. Ltd.
Delicate Footwear Ltd.
Duplan Dyeing Co. Ltd.
Godsall Co. Ltd.
Merck & Co. Limited
McDonald & Robb Ltd.
National Silicate Co.
Rosen Bros.
Sturge (Canada) Ltd.
The Montreal Cottons Ltd.
The Nichols Chemical Co. Ltd.
The Valley Paving Co.
Topper Dress Ltd.
Valleyfield Canning Co. Ltd.

WHY NOT ADD YOUR COMPANY'S NAME?



ABOVE:
The Beauharnois Power Plant of the Quebec Hydro Electric Commission.

AT LEFT:
Aerial view of City of Valleyfield.

AT RIGHT:
Plant of The Montreal Cottons Limited.

◀ Power

Adequate power is available from the Beauharnois power plant of the Quebec Hydro Electric Commission, 15 miles from Valleyfield. Expansion plans, when completed in 1958, will raise present capacity of 1,400,000 HP to 2,150,000 HP. Note dotted line showing area of excavation and construction work.

Please Direct Enquiries to:
Industrial Committee
CITY OF VALLEYFIELD
PROVINCE OF QUEBEC
CANADA

Mr. Chevrier Talks Tomorrow

The Seaway is taking shape in Central Canada, but its effects will be felt from coast to coast. Here is a compilation of public statements by Lionel Chevrier, president of the St. Lawrence Seaway Authority, describing the impact expected from the Seaway throughout all of Canada's regions.

By LIONEL CHEVRIER

Why is the power project necessary from a navigation standpoint? With respect to navigation, the main objective is to remove the present bottleneck in the St. Lawrence River.

Removing the bottleneck would save many millions of dollars a year in the cost of moving shipments that today pass its small canals or follow alternative routes to market. This alone would be sufficient reason to construct the Seaway.

Now it also promises to be the key that will unlock the future for the iron ore fields of Quebec and Labrador. It will open large new markets for these ores in the Great Lakes area, otherwise largely out of economic reach.

And on the other side of the coin it will give those interior steel mills the best new source of ore at the lowest cost.

The mills within reach of the Great Lakes account for about 75% or 80% of the steel produced in U. S. They draw ore preponderantly from the iron ranges of the Lake Superior district.

The immediate problem is not the exhaustion of these ores, although that too may be expected at some more or less indefinite time. The point is that production of the ores now in use has just about reached its maximum annual rate, and that maintenance of even that rate promises to involve a continued increase in costs.

Meanwhile ore requirements continue to rise, not only because of additions to steel capacity, but because with a shortage of scrap it is taking more pig iron to make a ton of steel. The problem thus is one of a growing gap between supplies and requirements.

This gap can be filled partly with imported ore from Quebec-Labrador, Venezuela, Liberia and other countries, partly by-resort to such low-grade sources of iron as the so-called "taconite" found in vast quantities in the Lake Superior district.

It is likely that each of these sources will get some call in any event. But without the Seaway, the great inland steel mills can expect to find their ore more costly and their supply position less satisfactory all around.

Ore Traffic

Obviously enough, the steel mills are going to use the ore that is cheapest to them. At present that is Lake Superior ore, broadly speaking. But the delivered prices of these ores have been moving upward for many decades.

Quebec-Labrador ores, after paying any likely toll, would be enabled to compete in most of the Lake districts at current prices for ore. The ore deposits occur near the surface over a wide area, readily mined from open pits, and hence low-cost shipments could be made in any volume likely to be required. Accordingly, the Seaway will give the best possible answer to the ore problem, both in terms of cost and of ready availability.

Transportation economies in other fields as well as iron ore may attract less attention but they will be important too. It so happens that they promise to be all the greater because of the new ore movement.

It appears that the carriers delivering ore from Seven Islands to Lake Erie will find it of advantage to proceed to the head of the Lakes to pick up cargo for Montreal or beyond, and that for such offerings they could underquote any other vessels that did not have a like advantage in two-way cargoes. This of course means a more economical use of shipping.

Moreover, it is expected that the up traffic will outweigh the down, what with the preponderance of iron ore. The difference may not be great, but it should be enough to shift the rate advantage to the downbound cargoes as a result of normal competitive forces.

Prairies To Benefit

The Seaway is bound to have a pronounced effect upon the movement of grain from the prairie provinces. Wheat, oats, barley and other grains are commodities of relatively low value per unit weight. They are extremely well suited to mechanized bulk handling and are practically self-trimming in the holds of ships.

These properties have made the transportation pattern of wheat very sensitive to freight rates with the result that water carriage has always been preferred even for relatively short distances. A commodity as well adapted to water transport in bulk as grain will not fail to take advantage of the St. Lawrence Seaway facilities.

The greater savings possible through the use of the deep waterway will provide an added incentive to the utilization of water transport. It will extend the zone from which grain can be gathered in the Prairies and delivered abroad at competitive prices via the St. Lawrence ports.

Even taking in account the recent trend toward more shipments of export grains through Pacific Coast outlets and the Port of Churchill, a considerable volume of grain will be moved on the new Seaway at a significant reduction in cost. This cannot help but benefit the Canadian grain growers and all their suppliers.

To summarize: most grain will continue to move in bulk carriers, the laker-type vessel will probably maintain its superiority for the specialized task of bringing grain to Montreal and lower ports; transshipment of grain from lakers to ocean vessels at some point along the route is therefore indicated; the presence of grain in elevators at Montreal and beyond which has been delivered by the lake carriers will remove some of the incentive for ocean vessels to proceed to the lakehead for the express purpose of picking up loads of export grain. It is estimated that the savings in the costs of transporting grain and other commodities will amount to $30,000,000 a year.

Pipeline Competition

On the other hand, the St. Lawrence Seaway will have no effect upon the transportation of oil and gasoline products in Alberta since this province is now joined with British Columbia by the Trans-Mountain Pipe-Line and to Saskatchewan, Manitoba and Ontario by the Interprovincial Pipe-Line. Neither will the Seaway enhance the distribution of Alberta coal to points in Ontario.

From the point of view of national defense, I believe that the development of the St. Lawrence Deep Waterway is of the greatest urgency. The main contribution perhaps would be in the field of iron ore supplies. The demand for ore has risen in the present period of preparedness, and would rise sharply again on the outbreak of a major war.

The Seaway would make at least four other contributions to defense. The project would create a reserve of power in the industrial heart of Canada, to be drawn on in the emergency. The combination of power and navigation will stimulate industrial growth, permitting more of the specialized production required in modern war. The Seaway will add flexibility and dispersal to a shipbuilding program. And it will provide an additional transportation route between the factories and the battlefront.

Ore carriers and other vessels from the Gulf of St. Lawrence to the Seaway would be infinitely less vulnerable to submarine attack than on the open sea, where this is the main menace. On the other hand it is true that a determined enemy attack could damage or destroy some of the Seaway installations.

The same can be said for any one of the existing hydro developments, steam power plants, the locks at Sault Ste. Marie, taconite concentration plants, the ore docks on Lake Erie, the steel plants themselves, or the railway lines. But an enemy would find it extremely difficult to knock out all the various alternatives at the same time.

On the navigation side, the benefits will be most important for commodities having high transportation costs relative to their value. The volume of such commodities used or produced in central Canada and likely to be served by the Seaway is only a small part of the prospective traffic. Without meaning to belittle the advantages to this area, it must nevertheless be observed that the main benefits will be felt elsewhere.

As a matter of fact it is difficult to go very far in ranking the benefits to the various provinces in order of importance. Rather than argue about which will gain the most, let us look at what concrete opportunities will be opened up for each.

The Prairies would find a substantial saving in the cost of moving grain and flour and other products to markets in eastern Canada and overseas. Moreover, the Seaway would permit large ocean vessels to move into the Great Lakes to relieve such shortages of shipping as occurred this year. Shortages occur from time to time to hinder the grain movement, for at present the only vessels that can enter the lakes are too small and too few to make much impression.

I have mentioned already Newfoundland's interest in the Labrador development. Beyond this, the four Maritime provinces would get a new and low-cost transportation route to the heart of the continent.

They complain with some justice that there is no effective water competition to keep down the rail rates. Well, this is it. There can be no doubt but that it would bring new opportunities to explore in pulpwood, woodpulp, paper, lumber, specialty agricultural products, minerals, and other products.

British Columbia

What effect will the Seaway have upon the province of British Columbia?

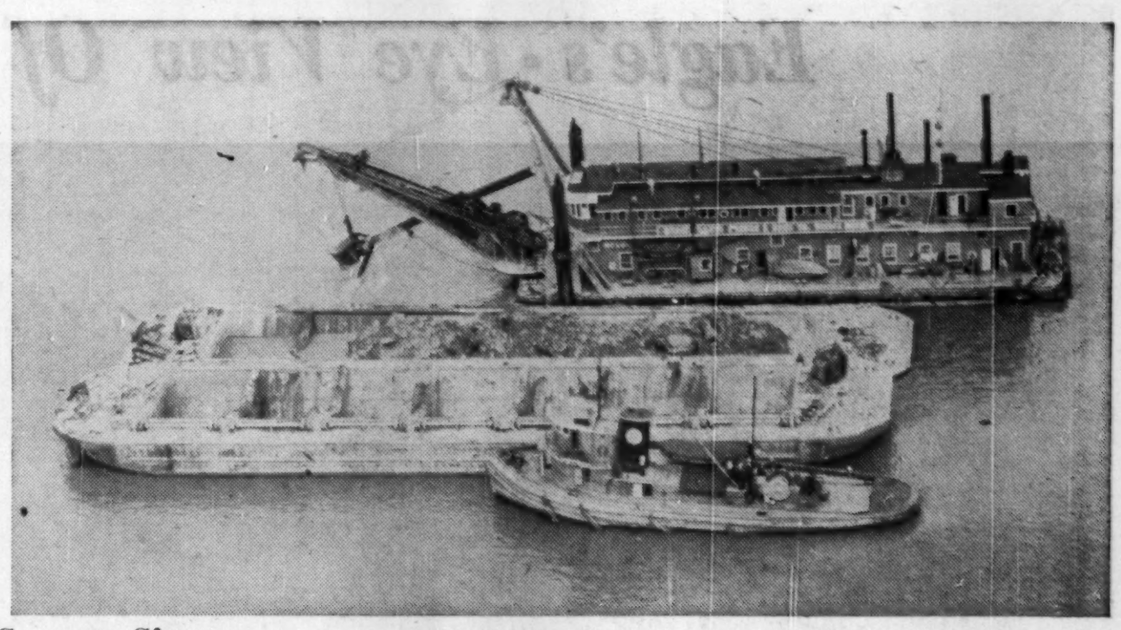
The chief exports of British Columbia are fish and fish products, fruit, pulp and paper, lumber, metals and grain.

I do not think the British Columbia fishing industry is likely to reap direct benefits of any consequence from the Seaway Development.

That part of the British Columbia fisheries products that is shipped across Canada is made up of canned goods, with a high value per unit weight. The possible utilization of the Seaway by this traffic broken up in small shipments on a ship taking general cargo to the head of the Lakes, Toronto, Montreal and other eastern ports, will not result in important savings, but I should point out that the general industrial development predicted in the Montreal-Toronto area as a result of power and deeper navigation will increase the market for British Columbia products in this central region.

The majority of B. C. apple shipments terminate in the Prairie Provinces and Ontario. These would not be subject to

(Continued on page 38)



Seaway Sinews:

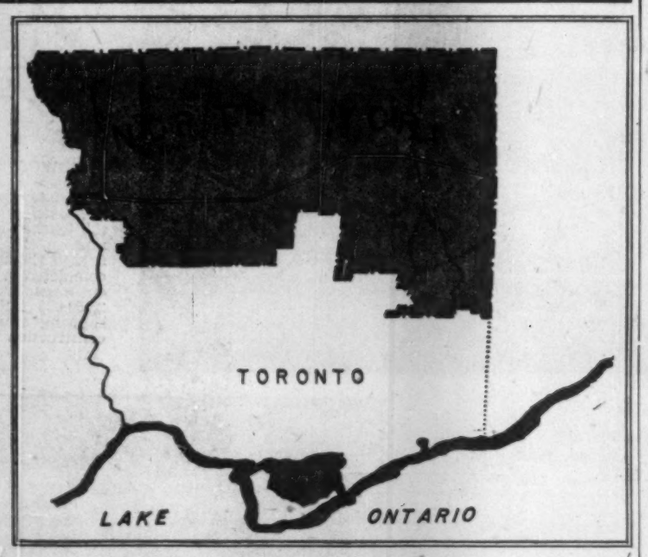
Dredge scoops out rock, mud to deepen Seaway channel near Prescott, Ont.

Right in the heart of the 100 mile radius that contains 1/3 of Canada's entire buying power

NORTH YORK TOWNSHIP

AREA MUNICIPALITY OF METROPOLITAN TORONTO

North York Welcomes New Industry . .



LOCATION: North York Township lies immediately north of Toronto, Ontario, seat of the Provincial Government.

AREA: Sixty-eight square miles, or 44 thousand acres.

POPULATION: 170,000.

RAILWAY SERVICE: Served by the main lines of both the Canadian National and Canadian Pacific railways. Switching connections and adequate railway sidings available. Toronto freight rate prevails.

HIGHWAYS: Ten major roads pass through the Township, including Provincial Highways No. 11, No. 400 and No. 401.

AIR TRANSPORTATION: Malton Airport, just west of the Township, supplies direct service to all principal Canadian and American Cities and Britain.

WATER TRANSPORTATION: Deep water and nine miles of modern docks with complete shipping facilities are available for lake and ocean transportation within six miles of the Township. Toronto will be one of the principal Harbours in the new St. Lawrence Seaway.

POWER SERVICE: From the Ontario Hydro Electric Power Commission adequate power service is available through the North York Municipal Hydro Commission.

WATER SUPPLY: provided by the Municipality through the Metropolitan Water Works.

FUEL SUPPLY: Gas, coal and fuel oil supplies are all readily available in the Township.

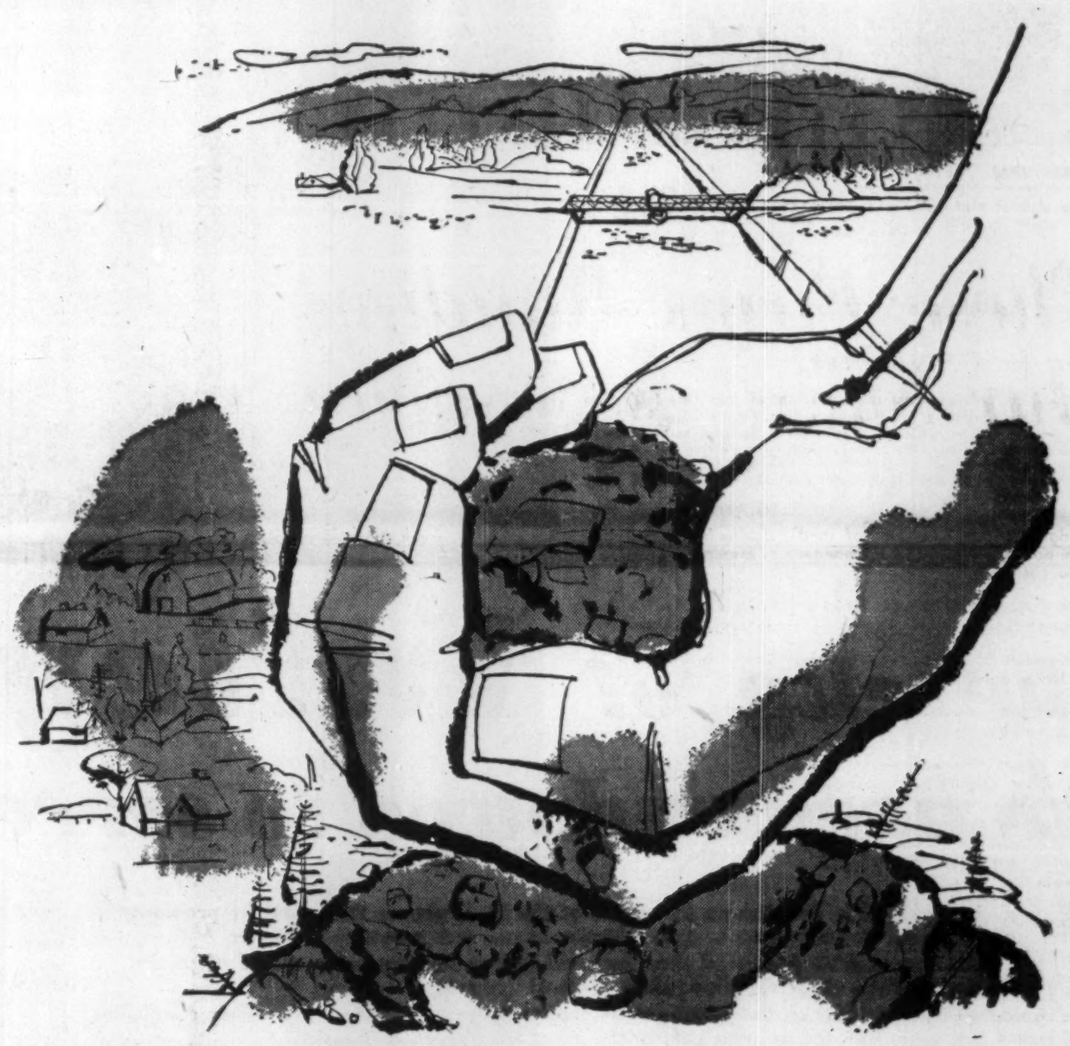
LABOUR: Because of the rapidly expanding residential growth and the immediate proximity to Toronto, little difficulty should be encountered in acquiring sufficient male or female help for all types of skilled, semi-skilled and unskilled work.

RAW MATERIAL: In view of the township's strategic position, practically all classes of raw materials are quickly and readily at hand.

ADDRESS ENQUIRIES TO:

NORTH YORK INDUSTRIAL COMMISSIONER

G. H. BAKER
5000 YONGE STREET
WILLOWDALE, ONTARIO



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Muscle Power plus engineering skill of the highest order are creating the St. Lawrence Seaway — one of the great works of mankind which will *endure*.

Mussens Canada Limited is proud of its role in supplying a significant share of this Muscle Power in the form of giant earth-moving machines and almost every kind of auxiliary equipment. Mussens is also providing Parts and rapid Service whenever and wherever needed, in order to help speed this great Canadian achievement.

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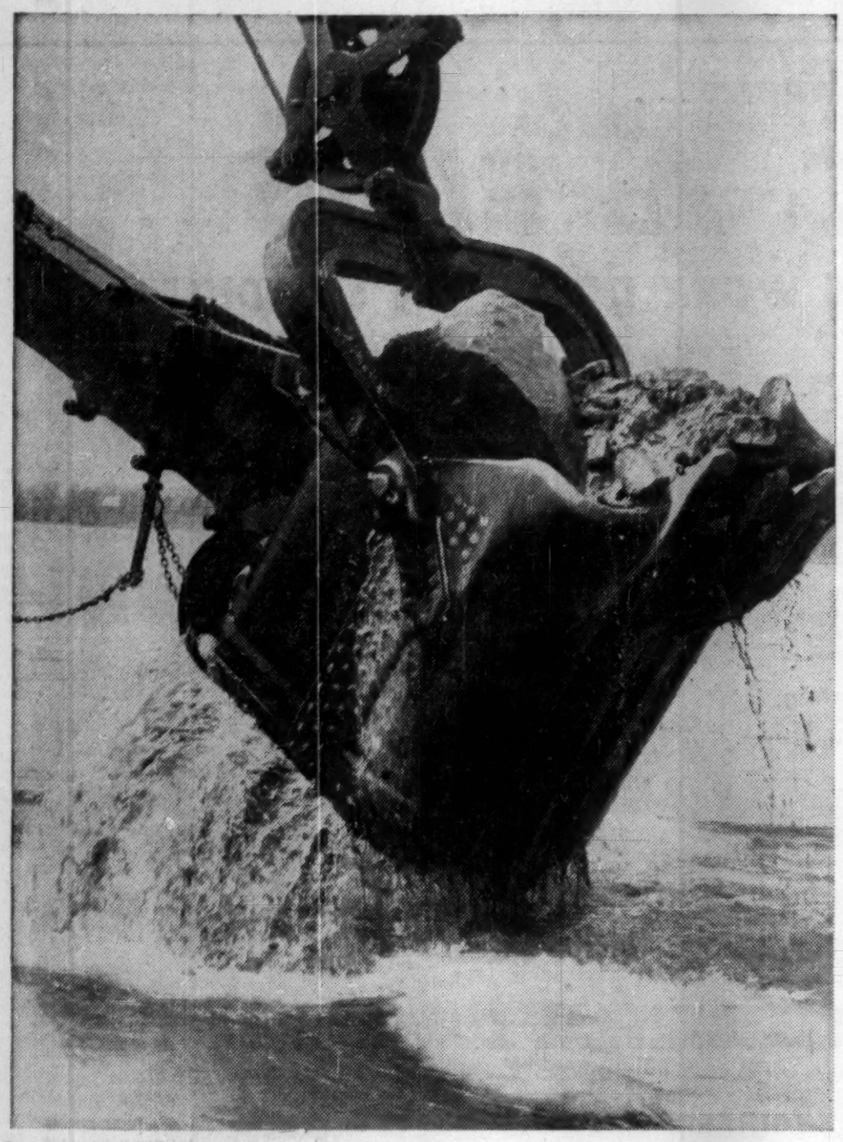


Seaway Sinews:

Huge shovel claws up rock from St. Lawrence channel bed.

On-The-Job Radio Speeds Up Seaway Channel Construction

The timetable to which engineers and construction crews are working on the St. Lawrence Seaway and Power Projects is so tight that it overshadows all other considerations.

One Ontario Hydro engineer underlined the point recently. "Time is the only priceless commodity on this job."

By that standard, a Montreal firm, **Miron & Freres,** has turned to electronics to speed up the job.

Because of the rigid timetable, engineers have been under pressure to produce specification without any provision for slack. In spite of that, Miron & Freres slashed through a tough contract —excavation of a 4,200-ft. section of overland Seaway channel —eight full months ahead of schedule.

The secret of the company's method can be summed up in two words—lights and radio.

Batteries of high-powered lamps lit the scene and permitted shift crews to work night and day.

And radio, a **Rogers-Majestic** installation, provided the instantaneous communications that have become vital equipment on every major Miron contract.

Three-Way Network

The three-way network links the company's head office with the project office and with dozens of mobile units in foremen's cars and the cabs of major pieces of equipment.

Engineers were kept in minute-by-minute contact with the work; spare parts were speeded to breakdowns with a minimum loss of time; orders were changed without calling the supervisors concerned away from their work.

And the Seaway Authority wasn't the only beneficiary of

(Continued on page 38)

SURVEYER, NENNIGER & CHENEVERT

CONSULTING ENGINEERS

1440 ST. CATHERINE ST. W., MONTREAL 25, QUE.

Preparation of plans and specifications for the

St. Lawrence Seaway Authority

for remedial sewage, drainage, and water supply works for South Shore Municipalities, and with Quebec-Hydro on alterations to the C.P.R. bridge at Caughnawaga, necessitated by the future Lachine hydro-electric power development.

COMPLETE ENGINEERING DESIGN OF INDUSTRIAL PROJECTS . . . every phase from . . . Site Selection, Layout, Structural and Building Services . . . to completion. Either alone or in collaboration with Clients' Engineers or outside Specialists.

DESIGN and SUPERVISION of Construction of general Municipal Works . . . Water Filtration and Sewage Treatment Plants . . . Hydro-Electric and Steam Plants . . . Hydraulic Structures, Harbours and River improvements.

These Firms Building Our Share of Seaway

(Continued from page 36)

	SOULANGES SECTION		
Dredging 600,000 cu. yds. of sand from part of Lake St. Francis channel at Lancaster Bar.	Marine Industries Ltd., Montreal.	June 30, 1958	384,000
Production of concrete aggregates at Beauharnois.	Canit Construction Ltd., Montreal, Que.	.....	2,131,100
Constructoin of lock and approaches for lower Beauharnois.	Canit Construction Ltd., Montreal.	Oct. 31, 1958	11,199,925
Construction of lock and approaches for upper Beauharnois.	United Waterways Contractors Ltd., Montreal.	Nov. 30, 1958	14,440,000
First stage construction of lower and upper Beauharnois locks, with approaches, involving 200,000 cu. yds. common excavation and 1.1 million cu. yds. rock excavation, rock grouting, cofferdam construction and unwatering, construction of service roads and relocation of part of NYC railway line.	Atlas-Winston Ltd., Montreal.	Oct. 31, 1956	3,479,750
	LAKE ST. FRANCIS SECTION		
Dredging western approach to Beauharnois canal in Lake St. Francis, including dredging of 1.1 million cu. yds. of sand.	McNamara Construction Co., Toronto.	June 30, 1958	682,000
Dredging 2.7 million cu. yds. of overburden from Fraser Point to Cornwall in Lake St. Francis.	Canadian Dredge & Dock Co., Toronto.	June 30, 1958	4,698,000
	INTERNATIONAL RAPIDS SECTION		
Construction of seven-story headquarters building, Cornwall.	M. Sullivan & Sons, Arnprior, Ont.	April 30, 1957	1,337,337
Construction of canal and lock to carry ships past control dam at Iroquois, Ont. Some 6,600 ft. long, project requires excavation of 4.5 million cu. yds. of material.	Pentagon Construction Co. and Iroquois Construction Ltd., Montreal.	Nov. 30, 1957	6,470,000
	WELLAND CANAL		
Enlarging canal channel between Locks 1 and 2, with excavation of 126,000 cu. yds. of material, removal of 50 cu. yds. of concrete slabs, and placing of 100 cu. yds. of stone protection.	McNamara Construction Co., Toronto.	June 30, 1958	359,755
Enlarging canal channel between Locks 2 and 3, with 482,000 cu. yds. of common excavation, removal of 600 cu. yds. of concrete slabs, and placing 200 cu. yds. of stone protection.	Swansea Construction Co., Toronto.	June 30, 1958	698,260
Enlarging canal channel between Locks 3 and 4, with 41,000 cu. yds. of common excavation, removal of 100 cu. yds. of concrete slabs, and placing of 100 cu. yds. of stone protection.	Aiken & MacLachlan Ltd., St. Catharines, Ont.	June 30, 1958	104,000
Deepening four miles of the existing channel to 27 ft. (from 25 ft.), extending 2½ miles above and 1½ miles below Lock 8, and including approach channels.	McNamara Construction Co. and Canadian Dredge & Dock Co., Toronto.	Sept. 30, 1958	11,623,200
	ALL SECTIONS		
Supply and installation of operating machines for lock gates.	Canadian Vickers Ltd., Montreal.	.....	1,508,520
Supply of stop logs, pick-up booms, etc., for locks.	Montreal Locomotive Works Ltd. Montreal.	.....	2,210,400
Supply and installation of unwatering pumps and sump pumps at locks.	Canadian Ingersoll-Rand Co., Montreal.	.....	387,516
Supply of electrical cubicles for power supply, heating and lighting at locks.	Northern Electric Co., Montreal.	.....	313,165

WESTINGHOUSE "WORKHORSES"

pull power from St. Lawrence

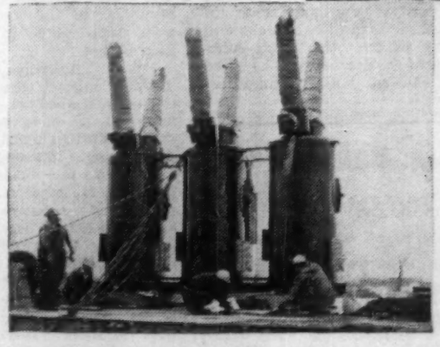
WESTINGHOUSE SUPPLIES GIANT GENERATING AND TRANSMISSION EQUIPMENT FOR VITAL ST. LAWRENCE POWER PROJECT

Mid-1960 will bring 820,000 Kilowatts of new Hydro power to Canadian homes and industries—vitally needed electricity from Ontario Hydro's mighty St. Lawrence Power Project.

Eight massive Westinghouse generators, each two storeys high, will handle half this giant power job. The project's entire output will pass through Westinghouse step-up transformers; and Westinghouse Jetaire circuit breakers help protect the multi-million dollar investment in heavy equipment.

More than half Canada's hydro power already comes from Westinghouse generating equipment. On the St. Lawrence, Westinghouse engineering skill and equipment will contribute still further to Canada's already highly electrical way of living.

Model of giant outdoor generators, now being built by Westinghouse, will help feed 820,000 Kilowatts of new power to Ontario.



Huge Westinghouse step-up transformers like this are now being built at Westinghouse for the St. Lawrence Generating Station.

Arriving at the St. Lawrence Transformer Station, Westinghouse Jetaire circuit breakers will protect power equipment on the Hydro system.

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Defeat Mud, Rock and Rapids In Drive for Seaway Deadline

The St. Lawrence Seaway is the story of men, money and machines opening up a water highway from the sea for ships to reach the heart of North America.

This was the dream that captured the imagination of explorers like Jacques Cartier more than 400 years ago. He ventured into the unknown seeking the Northwest Passage and a route to the rich and glamorous East.

While the Lachine Rapids held him from pushing into the interior of North America, men of vision since then have devoted their lives, their thoughts, their aims to building a deep waterway from the Atlantic Ocean into the vast inland lake system.

Today, the dream is on the threshold of becoming a reality.

In the spring of 1959 the St. Lawrence Seaway will be open to navigation and one of the greatest engineering feats of the 20th century will have been accomplished.

It was Nov. 17, 1954, that a dynamite blast signalled the start on excavation of the Seaway Channel between Jacques Cartier and Victoria Bridges.

Since then some $122 million in construction and supply contracts have been awarded in the five sections which comprise the Seaway of about $200 million in all to be awarded. Phase 1 of the project—excavation and dredging—is well under way and Phase 2, the evolution to the mechanical side, is just beginning.

Construction contracts for locks and approaches have been awarded. Soon, the St. Lawrence Seaway Authority will call for tenders on supply and installation of electrical cubicles—prefabricated metal huts to control lighting of locks, signals and operating machinery.

At the same time, excavation and dredging is being continued on a major scale. Seaway dredging is perhaps 50% complete. Generally, the over-all work is considered on schedule and by this November most of the contracts for the Canadian side of the Seaway likely will have been awarded.

Dig 21 Miles

For the work which must be done and for which the major construction contracts have been awarded, the St. Lawrence Seaway Authority will excavate over some 21 miles. To form the channel, the giant earth moving machines and their human masters will remove some 48.4 million cu. yds. or 72.6 million tons of earth, rock, gravel and other materials.

In actual operations, great bucket dredges, suction dredges and ladder dredges are working over a distance of 26 miles. In Lake St. Louis, Lake St. Francis, the Welland Ship Canal, and Montreal harbor, they will move 12.7 million cu. yds. of sub-surface overburden, rock and gravel from shoals and reaches along the way. This is equivalent to some 19,050,000 tons.

The two figures combined would fill a train of modern railroad hopper cars reaching from Halifax to Vancouver, doubling back to Halifax and then running back west again as far as Toronto.

When one talks or writes about the Seaway, it has to be in superlatives. Take the concrete being used by the Seaway Authority as an example. This alone amounts to 1,770,000 tons and would form a solid building—entirely of concrete—on a lot 100 ft. wide, 100 ft. deep and rising to a height of some 15 stories.

In the Lachine section of the Seaway, some 22 contracts valued at $64.7 million have been awarded of a total $125 million for this section. In the Soulanges section $32 million have been awarded in four contracts of an estimated $50 million.

In the Lake St. Francis section, $6 million have been awarded in three contracts and it is expected that no further awards will be required to complete the work.

In the International Rapids Section, $8 million have been awarded in two contracts.

In the Welland section $1.2 million have been awarded in three contracts.

In addition, $2.5 million have been awarded for lock bridges and lock operating machinery and a further $7.6 million for various miscellaneous contracts.

Into Action

In 1954, the chief work undertaken was obtaining designs, specifications and further pre-engineering work. Actual work on excavation did begin at one site, but it wasn't until 1955 that work started to move into full swing. Last year, many contracts were let and contractors were engaged in bringing equipment to the site and getting to work. Considerable progress was made.

With the advent of winter, dredging ceased. Excavation continued between Jacques Cartier and Victoria bridges, work continued in putting in permanent intakes for Longueuil and the town of Jacques Cartier. Excavation and dredging is now continuing on a major scale while Seaway project is also moving into the "mechanical" phase.

At Nov. 25, 1955, 22 contracts valued at about $50 million had been awarded covering services provided by professional engineering firms retained by the Seaway Authority, and awards to contractors for construction of permanent facilities required. Work completed amounted to about 15% of the total value of contracts awarded.

Here is a breakdown of what was achieved in the first year:

The 10 dredges working in Lake St. Louis and Lake St. Francis advanced the project to deepen the future channel to 27 ft.

Coffer-damming in the Laprairie Basin, on the South Shore, near Montreal, had to be restricted with winter because of the normal winter ice jam and rise of water levels. Excavation sites not clear of water couldn't be worked as pumps freeze.

Despite the winter, most of the work continued because the weather presented no serious problems in the heavy earth cuts at Iroquois and Cote Ste. Catherine. Rock excavation of the overland channel at Cote Ste. Catherine and in the area between Jacques Cartier and Victoria bridges proceeded as usual. At this latter site is the entry to the future channel.

Enlargement to piers on the Jacques Cartier bridge was carried on last year, engineering surveys continued and lock models were studied. Future contracts were advertised and awarded.

Downstream from Jacques Cartier bridge where entry to the future channel will be made from Montreal Harbor, **Miron & Freres Ltée,** of Montreal is engaged on a contract involving some 4,900 ft. in length to excavate 2 million cu. yds. of material of which 500,000 cu. yds. are rock. At the end of May, this was 44.5% completed in terms of the dollar value of the award which amounted to $1,768,900. This is called the "Jacques Cartier Bridge to Montreal Harbor" contract, was awarded June 15, 1955 and is to be completed Nov. 30, 1957.

By Oct. 31, 1955, 441,298 cu. yds. of excavation had been completed. Considerable coffer-damming was finished and part of the site de-watered. Dike construction had progressed in a satisfactory manner.

Construction of a temporary water supply for the municipalities of Longueuil and Jacques Cartier was completed two months after the award was made to A. Janin & Cie, Montreal contractors. The system is said to be operating satisfactorily.

In August, 1955, **Atlas Construction** was awarded a contract valued at $120,896 for construction of a permanent water intake for these two municipalities. Concrete for the pipe invert was placed and the contract completed by Dec. 15, 1955.

Atlas was also awarded a contract for enlargement of piers 1 to 11 of the Jacques Cartier bridge. Valued at $779,267, the contract was awarded Aug. 26, 1955, and grouting around several of the piers has been proceeding along with work in the vicinity of pier No. 2. At the end of May, this was 13.8% completed in terms of money value of contract.

Work is scheduled for completion by Sept. 30, 1956. Later, the southerly end and approaches of the Jacques Cartier bridge is to be raised permanently to allow 120 ft. vertical clearance.

Proceeding upstream from Jacques Cartier Bridge toward Victoria Bridge, is the location of the St. Lawrence Seaway Authority contract No. 1, awarded to **McNamara Construction Co., Pigott Construction Co.,** and **Peacock & McQuigge Ltd.,** of Toronto, on Oct. 25, 1954. The contract is valued at $2,314,500 and is for excavation of some 7,600 ft. of Seaway channel and construction of the dike is to be completed by June 30, 1957. Cofferdams are complete and the excavation is said progressing satisfactorily. Work is 94.3% completed.

By winter, tenders were called for construction of the St. Lambert Lock and approaches, the most easterly lock of the Seaway, to be built on the South Shore end of the bridge. This

(Continued on page 39)

Mr. Chevrier Talks Future

(Continued from page 36)

water transport and are therefore not susceptible to experience any benefit from the St. Lawrence Seaway.

The portion that goes into Quebec is today in a position to reap some benefit from water transport. However, an examination of the Shipping Reports for the last few years show otherwise. B. C. apples coming into Quebec market are moved entirely by rail.

It therefore seems that unless very important changes occur in the rail rate structure B. C. fruit will continue to utilize the rail route to Montreal.

Pulp and paper mills are widely distributed in Canada, and since they are located advantageously with respect to their source of raw material and immediate markets, large movements of products between the East and West Coast are non-existent. The reduction in transportation costs to be implemented through the development of the St. Lawrence Seaway will have no bearing on the transport of pulp and paper and allied products made in the Pacific coast province.

The St. Lawrence Seaway will undoubtedly offer some attractiveness to the shipment of lumber. The transportation economies made possible by the use of the 27-foot canal will widen the area within which water transport competes favorably with rail extending it beyond Montreal and into the Great Lakes area. It therefore seems that the Seaway will be beneficial to the marketing of west coast lumber in the Great Lakes area.

Railways

What will be the effect on Canadian railways? I do not think their fortunes will be greatly affected by diversions to the Seaway. For one thing, almost half the Seaway traffic foreseen is in iron ore, new traffic that now does not move at all. Another large part already uses the water route for a good deal of its movement, and either leaves the lakes to move by United States routes or trans-ships to small canalers. Still another substantial part now moves all the way by water in those canalers.

Such traffic as is lost by the railways will be largely in items now paying rates among the lowest in the schedule, rates that are low in the areas affected because strong competition from vessel service already exists.

On the other hand a continued industrial development, further stimulated by the project, may be expected to bring new and high-class traffic to the railways, including new traffic in the very areas where diversions may occur.

On-The-Job Radio Speeds Up Seaway Channel Construction

(Continued from page 37)

the fast work. The skilled men and their valuable equipment, a tremendous investment for the firm, were released to take part in other Seaway contracts awarded to Miron & Freres.

The story has been the same on the power project. Time was so important that Ontario Hydro —sharing the development with the New York State Power Authority—felt justified in spending millions of dollars on essential surveys before the project had cleared last legal hurdles in the U. S.

And radio was the essential link between survey crews probing the depths of the river or working on St. Lawrence islands and their mainland engineers.

Radio still spans the swift running waters of the river. It is the thin thread of control on several of the big dredging contracts.

The Dredges

Gouging out huge underwater bites with each dip of their buckets, the dredges are doing the Seaway and power drudgery. The channels they are clearing —largely unseen and certainly unspectacular to the public— will control the flow of the river to the power works or carry the shipping of the world.

One of the biggest boosters of good communications is the firm of **Coleman-Munro Ltd.,** the only Cornwall contractor to pick up big jobs on either the Seaway or power development.

In the years before the St. Lawrence work, Coleman-Munro, suppliers and haulers of gravel and other materials, could count its trucks on one hand.

Now the firm owns 35 vehicles of its own and has another 70 under contract to keep pace with the never-slackening appetite of the development for gravel, sand, crushed stone and fill.

The Coleman-Munro Ltd. radio network is a direct outgrowth of the frustrations of trying to contact gravel pit offices by rural, party line telephone. Now Gordon Coleman, one of the two partners, doesn't understand how they ever managed without radio.

"We certainly couldn't go back to operating our busines without it—Seaway or no Seaway," he explained.

Plans are already being made to keep radio in the Seaway picture long after the construction areas have become parks and the small army of workers has given way to tourist crowds.

A radio network will be used to control the movement of ships, the operation of locks and many of the other vital functions of the Seaway will be aided by modern radio communications.

ON THE ST. LAWRENCE . . .

C. A. PITTS

MEANS WORK DONE "ON SCHEDULE"

Galop Island, and several smaller islands in the St. Lawrence River, near Prescott, Ontario, are in the process of being cut in half by the construction forces of C. A. Pitts General Contractor Ltd. 15,500,000 cubic yards of earth and rock will be moved from a cut 1300 ft. wide and three miles long, as part of Ontario Hydro's St. Lawrence Power Project.

Pitts Company is also engaged on three other contracts for the Ontario Hydro on this gigantic development, the supply of 2,000,000 tons of aggregates for the main powerhouse and allied works, the relocation of 13 miles of flooded C.N.R. main line, and the Cornwall Dyke closure and canal diversion.

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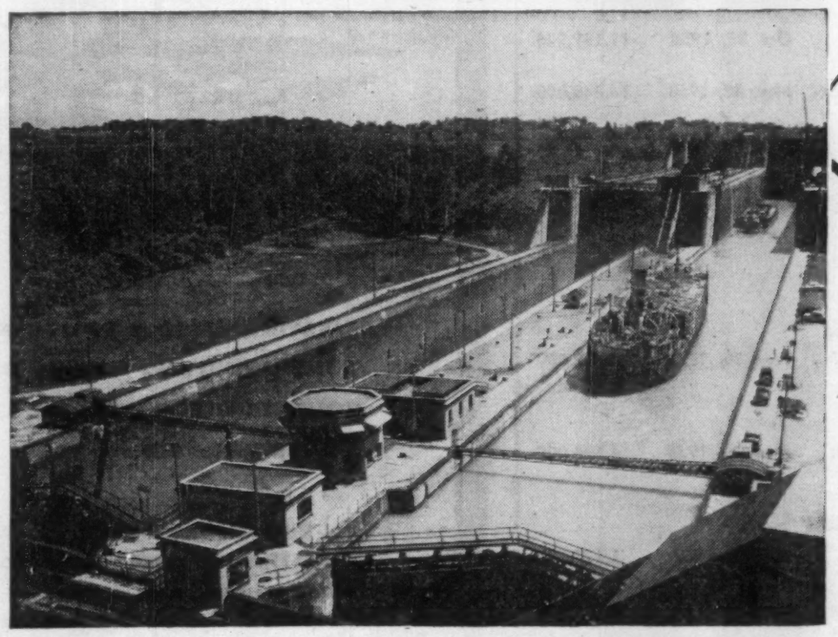
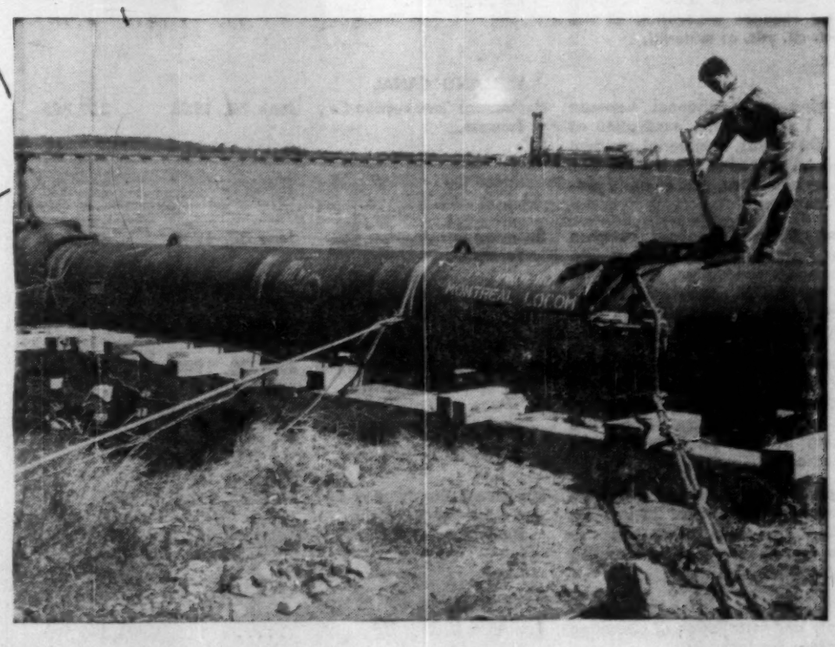
On the WELLAND CANAL



Special wire cable fenders (lowered boom in foreground) for all 14 lock gates on the Welland Canal were built by Montreal Locomotive Works. MLW also supplied lock gate and taintor valves and a wide range of gate and valve operating machinery still giving efficient service nearly a quarter-century later.

On the BEAUHARNOIS CANAL

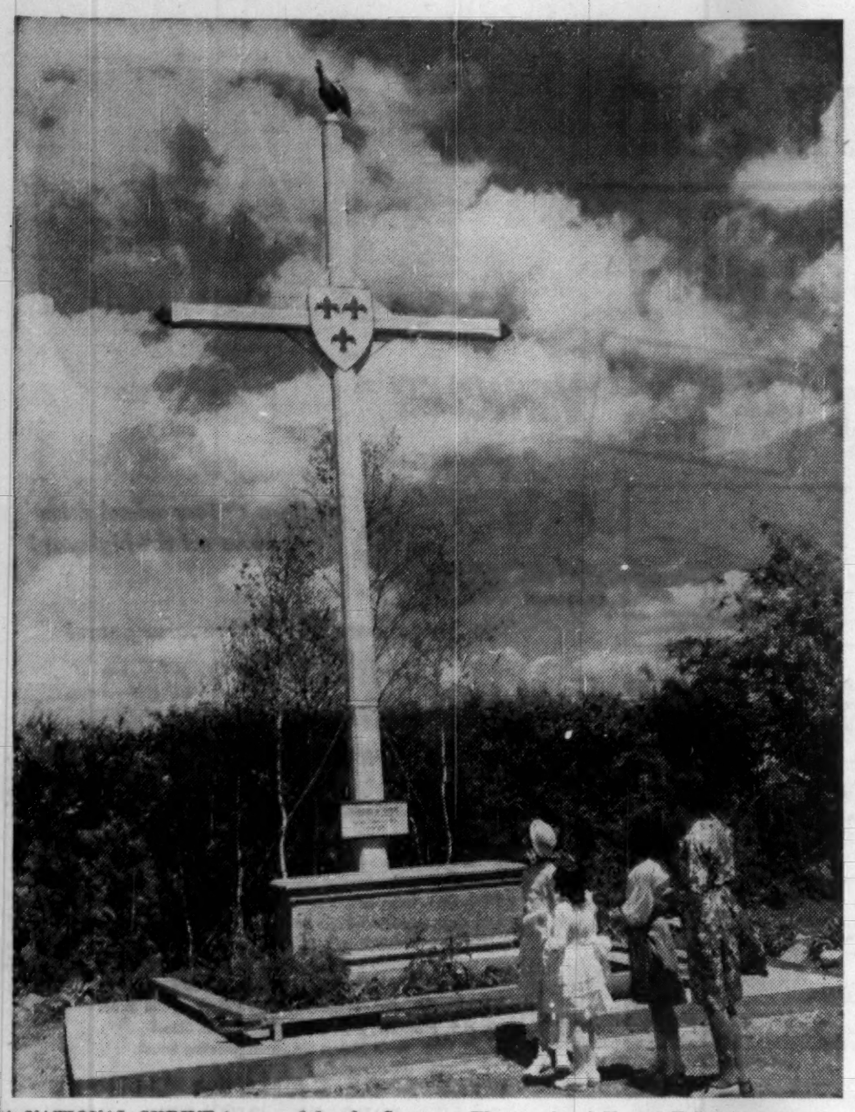


Lifeline of the Beauharnois Power Plant, Hydro-Quebec's Beauharnois Canal includes in its width a 600-foot navigation channel to permit passage of ocean vessels, provision having been made to install water-raising locks. MLW welded steel dredge pipe is used at dredging installations on the 15-mile canal.

MLW

Industrial Division

MONTREAL LOCOMOTIVE WORKS LIMITED



A NATIONAL SHRINE is spared by the Seaway. The tomb of Kateri Tekakwitha at Cote Ste. Catherine, although standing in a general area taken over by the St. Lawrence Seaway Authority, was spared from expropriation. The 17th century Indian maiden may, it is thought, eventually be canonized by the Roman Catholic Church as North America's first native saint.

Constructors Winning Battle Against River

(Continued from page 38)

work is now 11.1% completed.

After passing the St. Lambert Lock site, there are some seven miles of excavation of channel and construction of dyke in Laprairie Basin stretching around to the site of the future Cote Ste. Catherine Lock, which will carry vessels past Lachine Rapids.

The most easterly of the two lengthy channel and dyke contracts was awarded to **Walsh-Canadian Construction Co.** of Toronto, July 8, 1955. It was valued at $4,213,800 and called for the excavation of 20,000 ft. of channel.

It also included construction of requisite dyke, the construction of a turning basin for ships and the extension of the water intake for the city of St. Lambert.

Excavation required will involve some two million cu. yds. of rock and nearly five million cu. yds. of common excavation. Contract is to be completed by Dec. 15, 1957. At the end of May, 1956, it was 18.9% completed in terms of dollar value of award.

On this contract, some cofferdams have been completed and a section of the Seaway channel has been de-watered. In October last year alone the contractor completed 120,000 cu. yds of rock excavation. Temporary pumping facilities were installed to supply St. Lambert. Contractor has unwatered an area and laid considerable concrete pipe for construction of the permanent water intake.

Adjoining on the west and south is a contract for channel and dyke, awarded on the same date as the preceding one, valued at almost $3.3 millions.

It is to be completed by Aug. 31, 1958, and involves excavation of some 1.2 million cu. yds. of rock and some 2.5 million cu. yds. of common material. Contractor is **Northern Costruction Co.** and **J. W. Stewart Ltd.**

By November the contractor had completed some cofferdamming and sealed off and dewatered 1,400 ft. of channel. Some 9,570 cu. yds. of common excavation had been removed from the channel; work was completed on installation of a temporary water intake to serve town of Laprairie. At the end of May this year, contract was 18.9% completed on the basis of dollar value of contract.

Adjoining this contract proceeding upstream is that for the construction of Cote Ste. Catherine Lock and approaches. This and the St. Lambert Lock are the two locks to be built in the Lachine section of the Seaway. The contract for the Cote Ste. Catherine Lock was awarded Aug. 25, 1955, to **Canamont Construction Ltd.** and **Canit Construction Ltd.**, both of Montreal. Contract is valued at $7.1 million and is to be completed by July 31, 1958.

The work extends 10,500 ft. and in addition to construction of a lock, consists of excavation of a navigation channel and construction of dykes which form the approaches to the lock. It also includes excavation of a turning basin downstream to the lock, construction of regulating works for the control of water level of the upper reach of the canal and formation of a reservoir pool upstream of the lock.

Common excavation required by this contract will amount to some 2.8 million cu. yds., rock excavation to some 1,653,000 cu. yds. Concrete work will call for some 1,750,000 bags of cement.

Approximately 82,556 cu. yds. of common excavation had been removed to October, 1955, and rock excavation in that month was 35,059 cu. yds. By then, progress had also been made in the placing and rolling of fill and raising of cofferdam. At the end of May, contract was 13.8% completed in terms of dollar value of contract.

The contract to **Miron & Freres Ltée** of Montreal, for excavation of 4,200 ft. of part of the overland channel was completed eight months ahead of schedule. It proceeds along the South Shore from the westerly limits of the Ste. Catherine Lock contract, upstream in the direction of the Indian village of Caughnawaga. Under the contract, some 340,000 cu. yds. of common excavation were removed, some 490,000 cu. yds. of shale and 800,000 cu. yds. of limestone. The work also entailed laying 100,000 cu. yds. of rock cushion on each side of the channel.

On Nov. 25, 1955, **Northern Construction Co.** and **J. W. Stewart Ltd.**, Vancouver, were awarded a contract which adjoins the previous one, proceeds in a westerly direction further overland to immediately east of the Honore Mercier Bridge. This excavation will be some 14,800 ft. in extent and will involve 19,000 ft. of dyke. It also includes 4.6 million cu. yds. of common excavation, 2.9 million cu. yds. of rock excavation, construction of cofferdams and unwatering. Work is to be completed by Aug. 31, 1958.

Marine Industries Ltd., Montreal, was awarded a contract March 23, 1955, for dredging the Seaway channel in Lake St. Louis. It was valued at $8,219,000 and called for removal of 3.8 million cu. yds. of overburden and 100,000 cu. yds. of solid rock.

At the end of May, 1956, it was 42.5% completed on the basis of the dollar value of the award. The company also has a $384,000 contract to dredge 600,000 cu. yds. of sand, silt and clay from the Seaway channel at Lancaster Bay, Lake St. Louis.

McNamara Construction Co. of Toronto was awarded a contract for dredging the western approach to the Beauharnois Canal in Lake St. Francis valued at $682,000. The award was also given March 23, 1955, and requires dredging of 1.1 million cu. yds. of sand, silt and clay from the Seaway channel by June 30, 1958. At the end of May this year, contract was 39.1% completed in relation to dollar value of award.

Canadian Dredge and Dock Co. of Toronto was given contract to dredge 2.7 million cu. yds. of overburden from the Seaway channel in an area from Fraser Point to Cornwall in Lake St. Francis. Completion date is also June 30, 1958. Value of the contract amounted to $4,698,000 and was 40.6% completed on this basis at the end of May this year.

In the past month several multi-million dollar contracts have been awarded. These include:

● **Miron & Freres Ltée.** Montreal and the **Mannibec Construction Co.**, in joint venture, were awarded a contract for excavation of some two miles of overland channel in the Lachine section of the Seaway, at a total estimated cost of $5,843,750. Work will extend upstream from the Honore Mercier Bridge through part of the Caughnawaga Indian Reserve, to the dredged channel in Lake St. Louis. Excavation involved 11,500 ft. of overland channel and construction of the dyke from a point near the south end of the bridge to Lake St. Louis.

Work consists of 1.2 million cu. yds. of common excavation, 1,980,000 cu. yds. of rock excavation and about 10,000 ft. of dyke construction. Other items included in the contract are provision of a temporary water supply for the village of Caughnawaga and construction of water intake extension. All the work of the contract must be completed by Aug. 31, 1958.

● On June 22, 1956, a contract totaling $1,508,520 was awarded **Canadian Vickers Ltd.**, Montreal, for the supply and installation of operating machines for lock gates at locks of the Seaway. A contract was awarded to **Bridge and Tank Co. of Canada Ltd.**, Hamilton, Ont., for the supply and erection of Cote Ste. Catherine Lock Bridge, Lachine section, and Iroquois Lock Bridge, International Rapids section. Value of contract was $873,421. The work for operating machines includes the manufacture and installation of 16 valve operating machines, including sector gear, lever arms, drive pinions, couplings, gear units and base frames, as well as the supply and placing of all concrete grout required for bedding the machines.

The work involved in the contract for rolling lift type bridges includes the supply and erection of two bascule bridges to be installed, one across the upper end of Cote Ste. Catherine Lock at Cote Ste. Catherine and the other to be installed across the lower end of Iroquois Lock at Iroquois, Ont. These two bridges are identical and are to provide a 20-ft. service road and 5-ft. walkway.

A number of supply contracts for aggregates have been awarded. **Miron & Freres Ltée.** have been awarded a $1,113,000 contract to supply concrete aggregate in the Cote Ste. Catherine Lock area.

Standard Lime Co. has also been awarded a contract to supply fine aggregate to the St. Lambert Lock, while **Carriere de Trois Pistoles** has been awarded contract for handling sand between the CNR siding to the St. Lambert Lock. **Standard Paving Co.** was awarded another supply contract involving coarse aggregate for the St. Lambert Lock.

On June 29, the Seaway authorities signed a contract for $14,440,000 awarded to **United Waterways Constructors Ltd.**, Montreal, for construction of the Upper Beauharnois Lock and approaches, Soulanges section, and another contract for $11,199,925 to **Canit Construction Ltd.**, Montreal, for construction of the Lower Beauharnois Lock and approaches, Soulanges section.

With work such as this planned or under way, the face of the St. Lawrence will be changed by the Seaway. In the spring of 1959 sailing upriver from the 35-ft.-deep waters of Montreal Harbor, the same depth as maintained by dredged channels to 20 miles downriver from Quebec City, here's how the voyage would be and what it involved in seaway work:

The ship would enter the Seaway by a deep channel downstream from Jacques Cartier Bridge, which crosses the Montreal Harbor. It would sail beneath the bridge and on between rock dykes for some two miles in the new 27-ft.-deep channel to the first Seaway lock at St. Lambert.

The south end of the bridge must be raised to allow the vessel to pass beneath the Jacques Cartier Bridge which now ramps down on the site of the Seaway channel. It must be raised to provide a 120-ft. clearance overhead and go straight over the future seaway channel as it does the present Montreal Harbor.

Eleven piers of the bridge are being enlarged to achieve these objectives; bridges and other structures must be installed to take care of the road traffic while the bridge span is being raised to its final position.

Huge hydraulic jacks will be placed at the end of the span to lift it high enough for the necessary clearance. Then the newly-enlarged piers will be built up to carry the bridge.

At the St. Lambert Lock, close to Victoria Bridge, the vessel of 1959 will be raised some 15 ft. to a channel 10 miles long, extending along the Laprairie Basin, on the South Shore of the St. Lawrence River, to the second seaway lock at Cote Ste. Catherine.

Lift Span Bridge

A lift span must be installed to enable the ship to pass. This involves complex engineering to maintain motor traffic and keep to a minimum interference with passage of trains overhead.

In this shallow area above Montreal Harbor the work sites have to be cofferdammed, the enclosed spaces pumped out and excavation of the channel conducted "in the dry."

A dyke had to be built to protect the channel against the action of ice in winter, although the channel would not be in use, and against the inflow of silt, stone, etc., borne on the waters of the river.

This method of building cofferdams, pumping out, drilling and blasting shale and rock, loading the material by power shovel into great trucks or rockwagons and carrying it to disposal areas or to build the dyke is being used also for another seven miles from St. Lambert Lock around the bow of the Laprairie Basin.

The authority is making provision for new or enlarged water supply facilities, new arrangements for sewers and many amenities which are being affected by Seaway construction.

In the future, vessels would then enter an over-land channel some eight miles in length, by means of the Cote Ste. Catherine Lock, being lifted some 30 ft. to the level of Lake St. Louis. This lock and canal will be used to by-pass the Lachine Rapids, the classic barrier to navigation into the heart of North America from the sea.

Before the ship could enter the lake, however, she would have to pass under the Honore Mercier Bridge, a highway bridge, like the Jacques Cartier, and to which similar changes must be made. The vessel must also pass beneath the Canadian Pacific Railway bridge at Caughnawaga Indian Reserve.

In this bridge must be installed a lift span to allow the needed 120-ft. overhead clearance, but since there is no road traffic, there will be no need for the elaborate construction required at Victoria Bridge.

Dredging Needed

Above the Lachine Rapids is Lake St. Louis, a widening of the St. Lawrence River, increased by confluence with the Ottawa River from the north and west. For some 10 miles, dredging will be required to deepen the channel to the requisite 27 ft.

Before reaching the lake, the vessel must pass the Caughnawaga Indian Reserve where there is the Canadian Pacific Railway bridge. The bridge must have built into it a lift span to enable navigation to pass.

The future ship will then cross Lake St. Louis after being lifted by two single locks some 47 ft. each to the level of the Beauharnois Power Canal. When this 16-mile long canal was built there was incorporated into it a navigation channel 27-ft.-deep and some 600 ft. wide.

The St. Lawrence Seaway Authority is also building these locks, a two-way roadway tunnel under the Lower Beauharnois Lock and contracting for installation of lift-spans in three bridges which cross the Beauharnois Power Canal. Work there will probably cost some $40 million.

The two locks here are to by-pass the power installations at Melocheville, near Beauharnois, at the eastern end of the canal.

After passing the Beauharnois Power Canal, the vessel would then leave it at its upper end and follow the new Seaway channel being dredged, through Lake St. Francis, another widening in the St. Lawrence.

It would then reach the head of the lake at the foot of Cornwall Island, and enter into international territory (New York State to the south, the Province of Ontario to the north).

Time is drawing near when the centuries-old dream of penetrating to the heart of North America via a deep waterway will be a reality.

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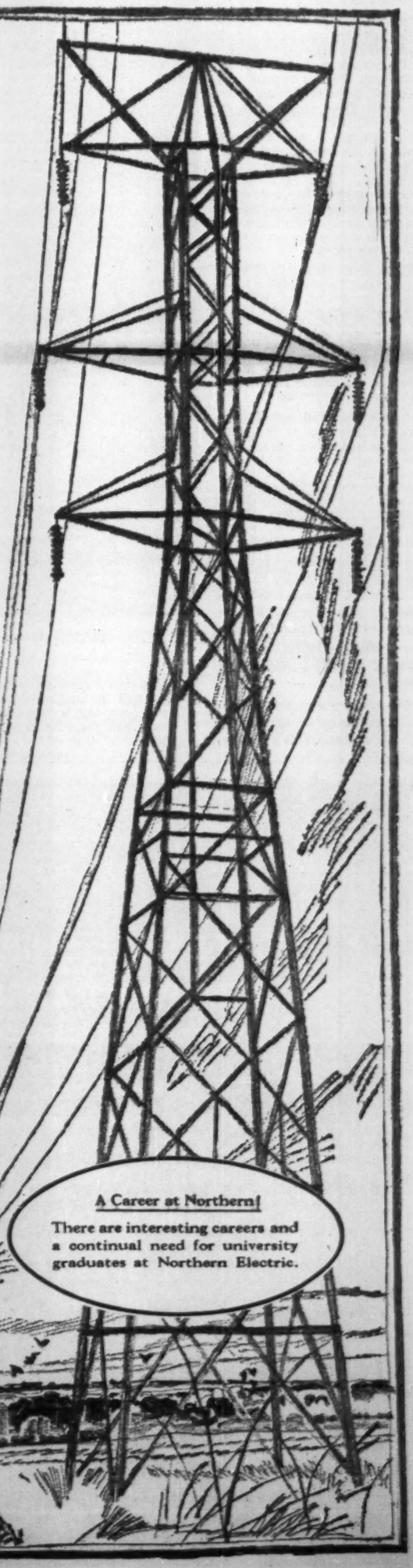

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Concrete: Bedrock for Power

About a million cu. yds. of concrete will go into the Canadian powerhouse at Cornwall, and on a rough calculation that could represent around 6 million bags of cement.

It's a mammoth quantity for handling on any project and, because of a tight work schedule, the problem had significant importance for the powerhouse contractor, **Iroquois Constructors Ltd.**

But the company has got round it by utilizing a method of operation in keeping with the broad scope of the project. Operating now is a pipe-blowing system that can move 60 tons of cement an hour—equal to about 1,440 bags—from storage silos to two main plant silos near the powerhouse site about a quarter of a mile away.

From the cars, the cement is unloaded and carried by screw and bucket conveyors to storage silos. When the blowing operation starts, the cement in the silo drops into a pipe below where another screw conveyor pushes it to the point where a line from a 200 h.p. water-cooled air compressor comes in.

Then, at from 35 to 40 lb. psi pressure, the cement is blown through the 1,800-ft. long, 6-in. steel pipe under the new diversion canal and the existing Cornwall Canal, and climbs 50 ft. on its way to the main plant silos. As required, the cement is brought into the mixing plant by bucket conveyor.

Special precautions have been taken to prevent damage from a build-up of the cement. If that occurs, the operator immediately cuts off the feed of cement into the line and gives the full air pressure opportunity to clear it.

Three sizes of coarse aggregate and manufactured sand come from a rock quarry, owned by Hydro and operated by **C. A. Pitts Ltd.** The aggregates are collected from stockpiles, built up about three miles north of the powerhouse site near Cornwall Centre. Trucks transport them to hoppers at the north end of the tunnels under Cornwall Canal. Then the hoppers drop the aggregates on to belts for transfer through the tunnels to small reserve stockpiles on the south side of the canal near the mixing plant.

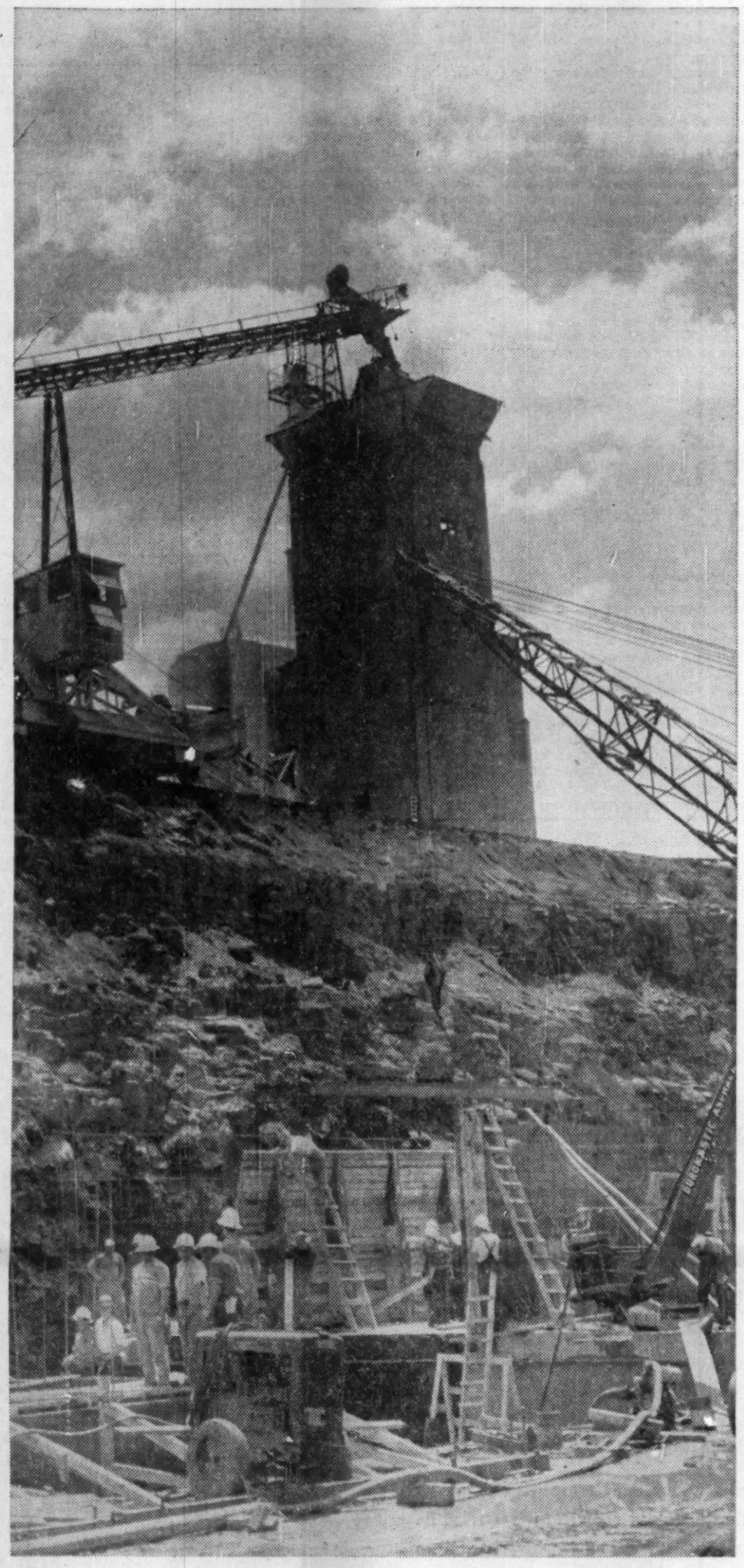
From there, as required, conveyors take the material to hoppers at the top of the batching and mixing plant.

A New Landmark

The huge batching and mixing plant on the north shore of the river is a landmark above the powerhouse excavation.

Now owned and operated by Iroquois Constructors, the plant has seen service on various major power construction jobs. It was in operation on the Madawaska River for Ontario Hydro's Stewartville development. After enlargement to take four instead of three mixers, it went to the Ottawa River for construction of the Otto Holden Station north of Mattawa. Then, before moving to Cornwall, it poured out concrete at Chippawa for the intakes of the Sir Adam Beck-Niagara No. 2 project and for sections of the lining of the twin power tunnels.

The plant is completely automatic and has a capacity of 200 cu. yds. an hour. It is estimated that 4,000 tons of concrete on the average will be discharged out of it every workday for the next two and a half years for its present job.



CONCRETE MIXING tower rises like medieval battlement above this Seaway construction site.

These are some of its unique features:

—Provides accurate, automatic weight batching, and compensates for variations in sand and fine gravel moisture content.

—Gives instantaneous mix changes with a mix selector, has interlocking operations to prevent errors.

—All controls are centred on one board and complete detailed records are given of every batch poured.

High production from such automatic mixing plants is a big factor in speeding the powerhouse construction. Once set for quality and type of mix required, a switch puts the plant into motion. The aggregates, cement and water flow into a set of bins and are automatically weighed. When the proportions are complete, the flow shuts off, the materials come together in a circular collector cone below, and then pass through a motor-driven swivel chute into one of the four mixing machines acting in series.

Once the mixers have done their job, the concrete pours into hoppers and the operation starts again.

From the mixing plant, the concrete is dumped on to conveyor belts and taken to a large hopper where it is loaded into trucks equipped with special buckets or into buckets on narrow-gauge railway cars hauled by small diesel engines.

The trucks take the concrete to the area where pouring is proceeding and mobile cranes lift out the buckets and empty them into the forms. The railway cars run between three large cranes where the boom does the same job as the mobile cranes.

Progress Speeds Up

Concreting is going forward at an accelerated rate, 24 hours a day with crews working eight-hour shifts. So it is planned to continue, irrespective of season, in the effort to meet the tight work schedule which envisions the first units of the powerhouse being in service by mid-1958.

The first batch of concrete was poured on the powerhouse site about mid-February last, some 18 months after the official sod-turning ceremonies.

By the end of June last, 135,000 cu. yds. of concrete had been placed in the U abutment, wing wall, ice sluices and for three generating units. The wing wall was completed during June and some of the concrete blocks in the U abutment have been finished to full height.

The pouring of the first concrete marked an important stage in the progress of this major section of the power project. The powerhouse contractors regarded the preparatory phase as the most time-consuming part of the work, and a steady increase in the pace of operations can now be expected.

Behind are months of excavating in the bottom of the north channel of the river. The contractors have been digging in the north half of the channel between Cornwall Canal bank on the Canadian mainland and the international boundary while U. S. forces worked from there over to Barnhart Island.

Both groups have been excavating down to bedrock to provide a solid foundation for the Canadian and U. S. powerhouses which will have an estimated combined weight of more than four million tons.

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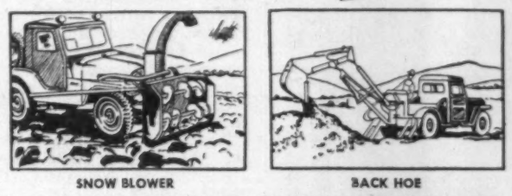
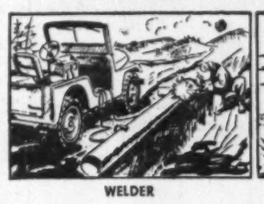

SNOW BLOWER

BACK HOE

TRUCK WRECKER

CAB WITH WINCH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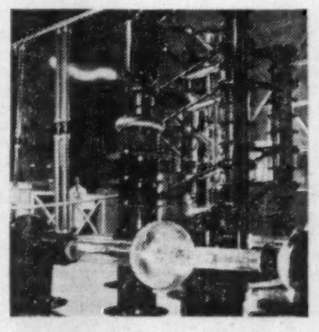
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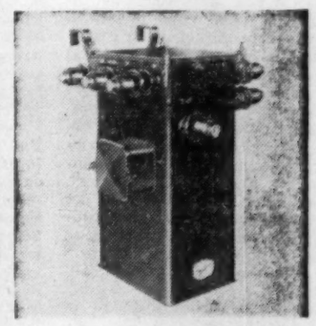
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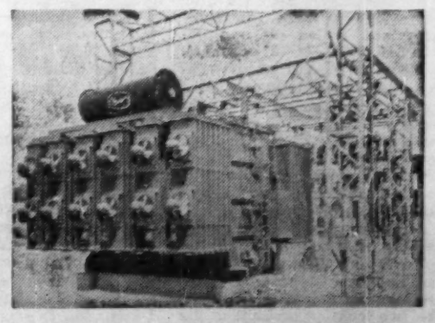

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Seaway Sinews:

Rock, rock and more rock is challenge of the Seaway ditch-diggers.

Tunnels Cut Bottleneck For Hydro

A bottleneck for traffic to the busy powerhouse area of Ontario Hydro's St. Lawrence project has been prevented, with the completion and opening of a second set of tunnels. These are under the new diversion channel for the Cornwall canal.

The new tunnels and the ones under the present Cornwall canal provide a short route from old No. 2 highway to the powerhouse work area. They mean most traffic can by-pass the barrier presented by a much-used canal. They provide not only the most direct route to the powerhouse, but are time-saving as well, Project Director Gordon Mitchell stated.

The second means of getting to the other side of the canal, he said, was possible by using the retractable Bailey bridge, which Ontario Hydro built near canal lock 19.

With the opening of the pair of new tunnels, a rather paradoxical situation exists. Drivers in vehicles, or workers going to and from the powerhouse area on foot, actually are passing under two channels of the same canal system, one a dry course and the other water-filled. The reason for this is that the diversion canal is being built this year, almost parallel to and within 100 yards of the present Cornwall canal, in readiness for the 1957 navigation season.

At that time, a mile of the existing canal will be cut off by power project construction work.

Certain sections, such as these passageways for vehicles and pedestrians under the new channel, require considerable time and work to build, and have thus been undertaken well in advance.

Begun Last Year

Construction of the new tunnels and a short section of diversion canal over them was begun by **Iroquois Constructors Limited,** Ontario Hydro's powerhouse contractor, in the late fall of last year. The work was suspended during the winter, because it was impossible to compact till for the 200-foot section of canal banks. It was not resumed until mid-April.

All construction on the tunnels was essentially finished by the end of June this year.

The two tunnels under the diversion channel are 66 feet shorter than similar tunnels built nearly two years ago by Ontario Hydro under the existing Cornwall canal.

Length of the new passageways constructed beneath the canal diversion is 302 ft. The larger tunnel for vehicles has a diameter of 16½ ft., and the smaller one has a 10-foot diameter.

Both tunnels are lined with multiplate, corrugated steel pipes anchored by concrete pads.

300 Tons of Pipe

Some 300 tons of this pipe, in bolted-together sections, were used for the liners of both tunnels. All the joints were welded to make the respective tunnel liners watertight. This involved the welding of nearly 12,000 ft. of joints and the use

(Continued on page 44)

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Tolls Ticklish 'Building' Job

If the engineers constructing the Seaway think they have troubles, they should meet the toll committees.

Two groups, one on each side of the border, are working not with bulldozers and cranes but with calculating machines, slide-rules and crystal balls.

Their job is to peer into the future, decide on the kind and amount of shipping that is likely to use the Seaway during the next half-century, and then set a toll high enough to recover the cost of building and operating the seaway and low enough to keep the traffic coming.

The Canadian and U. S. groups are meeting separately, as they have been for many months. By 1958, they will put their heads together and try to harmonize their conclusions.

The Canadian committee studying the toll problem is headed by Charles Gavsie, vice-president of the Seaway Authority. Other members are G. A. Scott, director of economic policy for the Department of Transport and Thomas Lessard, former Deputy Minister of Transport.

U. S. Members

The U. S. toll committee consists of E. Reece Harrill, comptroller of St. Lawrence Seaway Development Corp.; Dr. Charles Taff, a transportation economist; and H. M. Hochfield, a government expert on marine transport.

This group is working to find a toll system that will conform with these terms, laid down by Congress:

"Rates shall be fair and equitable and . . . give due consideration to encouragement of increased utilization of the navigational facilities and to . . . bulk agricultural, mineral and other raw materials. Rates may vary according to the character of the cargo . . . rates on vessels in ballast, without passengers or cargo, may be less . . ."

The pay-as-you-go principle is a new one, as far as Canada is concerned, in relation to deep waterways. The Welland canal, for instance, has been toll-free.

But the toll principle was accepted before the St. Lawrence Seaway Authority was established, and Parliament incorporated it in the Seaway Authority Act. The Wiley Act, passed by the U. S. Congress, is similar.

The basic question facing the toll probers is this: How much traffic will move through the seaway each year?

Canada's Department of Trade & Commerce made a survey of the intentions of all major industries expected to use the seaway. It then put the traffic potential at 31 million tons a year for the first few years of seaway operation.

Traffic Prediction

The U. S. toll committee made a similar survey. It predicts traffic of 35.5 million tons annually.

Somehow, the two committees must reconcile their estimates when they come together to compare findings. There's plenty of room for honest differences of opinion about conditions three or four years from now.

Important as it is, traffic is only one of many question marks. Another decision which must be made is whether different rates should be set for different commodities, as the U. S. legislation appears to suggest. It is possible that tolls could be based on tonnage, on commodity, or on a combination of the two. It is also conceivable that the U. S. would want to charge the highest toll on the commodities Canada preferred to pass most cheaply.

Purpose of the tolls is to recover the capital and operating costs of the Seaway. But the committees must recommend a way to do this. Although both Canadian and U. S. legislation stipulates that the cost of construction must be recovered through tolls within 50 years, it does not insist that the recoveries be spread evenly over each of the 50 years.

Delicate Questions

One of the most delicate questions concerns the division of toll receipts between the two countries. One possibility is that they be divided according to use. Another is that they be apportioned on the basis of each country's contribution to the cost of

(Continued on page 45)

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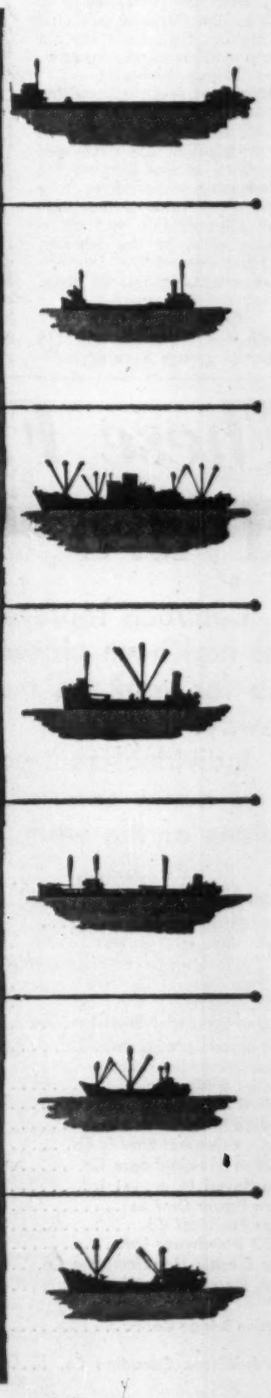

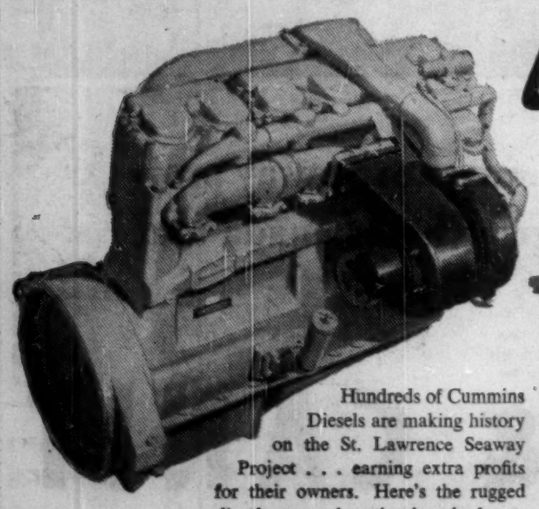

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Here's U.S. View on Seaway Tolls Problems

Most important Seaway problem yet unsolved is the rate of tolls to be charged. This must cover costs of construction, operation and maintenance. Presenting a U. S. viewpoint in the Analysts Journal, economist N. R. Danielian, who is president of the Great Lakes-St. Lawrence Association, raises these points:

- **Seaway tolls should offer the user an advantage over what he now has.**
- **Tolls must be low enough to attract trade but high enough to meet costs.**
- **A major limiting factor in tonnage growth could be Canada's Welland Canal.**

Here's Mr. Danielian's views:

By N. R. DANIELIAN

With the announcement by the St. Lawrence Seaway Development Corporation that their target date for completion of the St. Lawrence Seaway is the spring of 1959, only three years remain for the solution of many vexing problems. One of the most important problems unsolved is that of the establishment of equitable tolls and charges to pay for the Seaway and its operation.

In the enacting legislation of both the Canadian and American governments, procedural steps and principles were established as guides to be used for the determination of the amount and methods of collection for the rates and tolls. Public Law 358 of the 83rd Congress, which established the St. Lawrence Seaway Development Corporation, listed five principles to be used by the Corporation in its negotiations with the Canadian counterpart group, the St. Lawrence Seaway Authority.

Paramount was the provision that the rates established must provide for the amortization of the principal of the debts and obligations of the Corporation, spread over a period of fifty years. The rates should also cover all operating and maintenance costs of the Seaway, including depreciation, interest, and payments in lieu of taxes. Canada did the same.

Three Committees

Both the Canadian and the American groups have appointed committees to study the toll question and report their findings as preliminary steps to the establishment of toll schedules. In addition, the Great Lakes-St. Lawrence Association, a private group generally credited with the final success of the Seaway project, has established a Users' Committee on St. Lawrence Seaway Tolls.

This committee is composed of members from agriculture, industry, shipping, and trade groups, and is studying the question with a view toward making a report to the proper agencies which would represent the users' position on tolls. What this committee decides will be most important, for it likely will be the only detailed study made which expresses the point of view of those who will be the Seaway "customers."

Of prime consideration is the fact that the Seaway, stripped of its glamor and controversy, functions as a means of transportation, and nothing else.

If the Seaway is ever to be anything greater than a substitute carrier, the costs of using it must be economic and should offer the user an advantage over what he now has.

Meeting Two Needs

So there are two considerations which must be made in the establishment of tolls for the Seaway before methods are discussed. One is to make them low enough to attract trade and not hinder it; the second is the requirement of the law that the total cost be amortized in a fifty-year period.

A question the toll groups now are studying is whether or not these two considerations are compatible. Congress has decreed that the rates "shall be fair and equitable and shall give due consideration to encouragement of increased utilization of the navigation facilities, and to the special character of bulk agricultural, mineral, and other raw materials." The Canadians declared that tolls "shall be fair and reasonable."

A Complex Question

The toll question is a complex one, with many factors to be considered. Since the Seaway is a joint Canadian-American endeavor, the complexity of the toll question increases, as is always the case in bilateral decisions.

Tolls are to be established after discussion and negotiation between the officials of both countries. But if no common ground is reached, each group is empowered by the legislation to act alone, and if that unhappy day every dawns, there will be two separate toll systems in effect on the St. Lawrence.

Other problems of procedure involving the methods to be used for collection, the method of measurement of vessels, partial transits, bulk versus general cargo loads, or any one of the remainder, could create delays or cause disagreement which could result in a failure in the negotiations between the United States and Canada.

It should be remembered that no provision is made in the law which requires fifty equal payments to retire the construction costs. A delay, however serious, could still be compensated for by making up the money in later years.

U. S. Debt Limit

And there is still another legal provision to be considered here. That is the requirement that the Development Corporation cannot have more than $105 million of indebtedness at any one time. With the costs of construction added to the operating and maintenance, interest, depreciation, and the rest, that debt limit could be reached quickly after the Seaway opens, if tonnage does not develop speedily.

The question of potential tonnage, so important in tolls deliberations, is one more of the complexities of the question. Since the operation, maintenance, and construction costs have to be borne by the carriers through their payment of tolls and charges, the toll post per ton will go down as tonnage comes up.

Welland Bottleneck?

Accurate predictions made now estimating likely tonnage fifty years after the opening of the Seaway are almost impossible. To forecast anything for the year 2009 would indeed be foolhardy. This is especially true when one of the major factors limiting capacity tonnage to be moved is beyond American control. That is the all-Canadian Welland Canal.

Here is the area which could develop into the Seaway bottleneck if tonnage grows as predicted. The capacity of the Welland is less than the capacity of the Seaway. Improvements here would radically change the entire picture of Seaway traffic.

The utilization of the new light metals for ship design; development of more efficient fuels for vessels; better utilization of cargo space; establishment of new and different trade patterns — all could have decided effects on the tonnage the Seaway will be moving by 2009.

The build-up of tonnage over the fifty-year period must be calculated in an accurate curve, if toll rates are to be equitable.

Thus the toll question has barriers in every direction. Financially, there is a debt ceiling and a definite amortization period to be considered. As a practical matter, there is the very real possibility that tolls may be too high to encourage new trade. That happened on the Panama Canal and it was almost four decades before it reached a level of tonnage comparable to St. Lawrence capacity.

By the nature of the legislation, regulations when written will be complex and difficult of administration. The law requires special consideration be given to bulk loads of agricultural, mineral or other raw materials. Each classification of cargo, as far as possible, should derive relative benefits from the use of the Seaway. And all this with the possibility that separate toll structures could be established by each country at some future date.

The burden which rests with the Seaway authorities of the two countries and with groups like the Users' Committee on St. Lawrence Seaway Tolls, is large and the responsibility great. These groups must operate under increasing pressures as time passes. The work of these committees is vital to the success of the Seaway dream, for in their hands lies the power to padlock or swing open the trade gates for the Heartland of our continent.

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These Firms Building Hydro Power Colossus

Contracts representing a total of more than $150 millions had been placed by Ontario Hydro up to the end of June for work on the power project of the St. Lawrence Seaway.

Individual contract values are not given, but here is a list of major contracts awarded with contract amounts for sections of the work.

Powerhouse	**$72,853,000**
Iroquois Constructors Ltd.	Construction of powerhouse—general contract.
Mannix-Raymond Ltd.	Cofferdams and dewatering.
Canada Cement Company	Cement.
Steel Co. of Canada, Burlington Steel Co.	Reinforcing steel.
C. A. Pitts General Contractor Ltd.	Aggregate and sand.
Dominion Structural Steel Ltd.	Structural steel.
Dominion Structural Steel Ltd.	Headworks and tailrace steel; checks and sills.
Ardelt Industries of Canada Ltd.	Headworks and tailrace steel; checks and sills.
Standard Steel Construction Co.	Steel stoplogs for headworks and tailrace.
Dominion Bridge Co.	Headgates and hoists.
Standard Steel Construction Co.	Tailrace steel pier nosings and footings.
Canadian Vickers Ltd.	Ice sluice drum gates.
Canadian General Electric Co.	8 generators, 3 230 kv air blast breakers.
Canadian Westinghouse Co.	8 generators, 13 86,000 kva transformers.
Brown Boveri (Canada) Ltd.	Switchgear, 4 3,000 kva station service transformers.
Eastern Power Devices	14.4 kv isolated phase bus.
Phillips Electrical Co.	230 kv cable circuits.
CEMCO Switchgear Ltd.	Station service metal-enclosed switchgear.
Taylor Electric Manufacturing Co.	600 v metal-enclosed bus.
English Electric Co. of Canada	16 turbines and governors; control, metering and relaying equipment.
Dominion Bridge Co.	Two 75-ton erection bay cranes, 1 300-ton gantry crane, 1 90-ton gantry crane.
Richards-Wilcox Canadian Co.	Vertical lift, gantry crane and truck entrance doors.
Rehabilitation	**$24,400,000**
Horton Steel Works Ltd.	Water tanks—New Iroquois, New Towns 1 and 2, Morrisburg.
Beaver Construction Co.	Sewers and watermains and house services for Iroquois and New Town No. 2.
John Susin Construction Co.	Sewers and watermains and house services, New Town No. 1.
J. Entwistle	Water and sewage pumping station, New Town No. 1.
Bedford Construction Co.	Sewage treatment plants, Iroquois and Morrisburg.
Dominion Structural Steel Ltd.	Structural steel for Iroquois and Morrisburg shopping centres.
Schwenger Construction Ltd.	Sewage treatment plant, New Town No. 1.
Canadian Dredge and Dock Co.	Protective dyke at property of Canada Starch, Cardinal.
Cornwall dyke, canal	**$6,375,000**
C. A. Pitts General Contractor Ltd.	Cornwall dyke closure and canal diversion.
Atlas Construction Co.	Cornwall dyke.
Canadian Vickers Ltd.	Steel stoplogs, sills and checks.
C. A. Pitts General Contractor Ltd.	Galop Island (channel improvement).
Canadian Dredge & Dock Co.	Chimney Island (channel improvement).
CNR relocation	**$4,725,000**
Sir Robert McAlpine & Son (Canada) Ltd.	Subgrade.
C. A. Pitts General Contractor Ltd.	Subgrade.
Iroquois Construction Ltd.	Subgrade.
Harvey Construction Co.	Ballast.
Mannix Ltd.	Track laying and ballasting.
Dominion Bridge Co.	Supply and erection of steel railway bridges.
Miscellaneous	**$6,935,000**
Cementation Co. (Canada)	Project office building, Cornwall.
Macamic (Ontario) Ltd.	Improvement of nine-mile road and railroad siding.

COTE SAINTE-CATHERINE LOCK and approaches

THE KEY CONSTRUCTION LIMITED — MANAGING CONTRACTORS

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We are proud to play a part in the St. Lawrence Seaway project and help promote the industrial growth of Canada and the economic welfare of her people.

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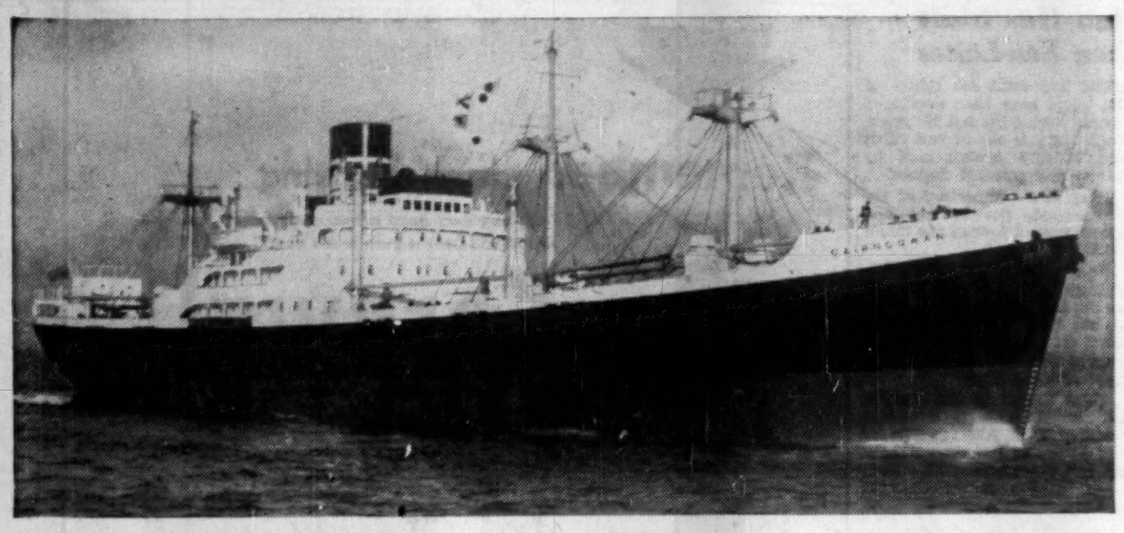
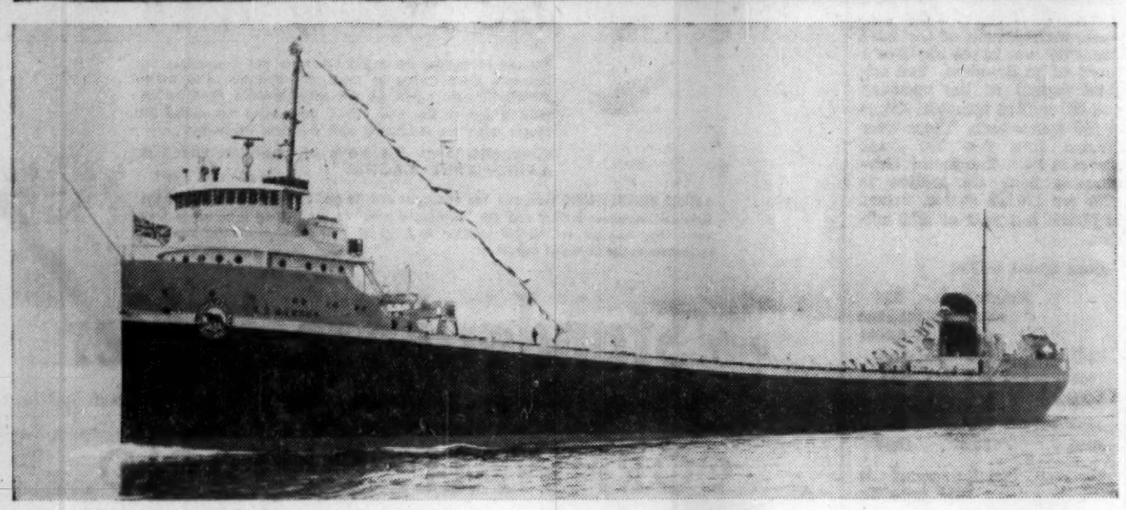
GENERAL CONTRACTORS





WHEN THE SEAWAY OPENS, many an inland Canadian will see larger deepsea ships for the first time. He may ask: Just what is the difference between the giant Great Lakes freighters and the ocean merchantmen?

(1) The deepsea ship, the SS Cairngowan (top), is built to take the battering of enormous ocean seas. Her bridge and superstructure are set well back from her bows, clear of the waves which will sluice over her forward decks. Her engines, and thus her funnel, are amidships for greater stability and strength.

(2) The laker, the SS E. B. Barber, is long and narrow for her great tonnage, built to fit easily into canals and locks. Her bridge (control centre) is right forward, for good visibility in confined canals. Her engines are aft, and cargo holds comprise her middle. Ocean seas and swells could split such a ship in half.

In brief, the laker is long and lean with great tonnage. The deepsea freighter is wider for her tonnage, tougher. Check these comparative statistics.

	SS Cairngowan (deepsea)	SS E. B. Barber (laker)
Gross tonnage	7,503	8,619
Length (ft.)	415	574
Beam (ft.)	60	59

Our Seaway-Built Prosperity Won't Come at Bargain Rates

The Seaway is about to face the ultimate test of operation. Shipment of grain and iron ore will be major factors in its impact on our economy. In a recent address on the transportation aspect of the Seaway, Professor J. L. McDougall of Queen's University, Kingston, told Canadian manufacturers we must be ready to make ancillary investments to draw full benefits from the money now being spent.

By PROF. J. L. McDOUGALL

The transportation aspect of the St. Lawrence Seaway limits me to what is a minor part of the whole project of construction—that part between the foot of Lake Ontario and ocean shipping at Montreal.

It is not as clearly realized as it should be that the canals in this area are clearly a by-product of a hydro-electric development and not the reverse.

There are, of course, substantial common works such as the dams, which are certainly necessary to the electric development and which are highly convenient if not totally necessary for transportation. But if it were not for the fact that there is now a market for the electric power we would not, I think, even yet be engaged upon this project.

Just as clearly this was a project put forward about thirty-five years ago, well before its time. The country had not yet grown up to the amount of power which it would suddenly throw upon the market. There was also less demand for the transportation which could be provided. In that period it was defended as a transportation project because that was the best way to get funds out of the federal governments of the United States and Canada.

The Wrong Reasons

This may have been utterly necessary as a matter of public relations; but I probably don't need to point out to you how much of the propaganda could have been avoided with profit if it hadn't started far too early, and if the project had not been defended for the wrong reasons.

Probably nobody benefited by those early struggles. All that has happened is that the country has grown up to the project. By 1950 to 1955 we could use all the remaining power to come out of the St. Lawrence, and therefore the project finally made sense.

Perhaps we should remember this as one of the utterly fundamental points in a growing economy such as Canada now is.

There is one other decisive fact. The United States is no longer self-sufficient in iron ore. The most valuable direct shipping ores of Lake Superior are no longer so freely available as they once were. Therefore there was an opening for a great bulk movement upward bound which would have been quite impossible before 1939.

Handling of Cargoes

Water transportation is magnificently cheap if certain prior conditions are respected. The movement must be in bulk, it must be in very large volume, and there must be an adequate shore establishment at each end so that the cargo may be loaded and unloaded with speed.

There are some cargoes, notably coal, which could be handled by self-unloaders, and in that case the investment in shore facilities need not be so great, lower St. Lawrence between Montreal and Quebec City which make delivery into ocean shipping.

If there is going to be through carriage to the lower St. Lawrence in big ships, then these transfer elevators will become obsolete. If they are not rendered obsolete, then the canals aren't going to achieve the full economy to the grain trade of which they are capable.

This means that about 20 million bushels of storage capacity are no longer fully available to even out the flow of grain through the lower St. Lawrence. Therefore there must be, I think, additional construction at and below Montreal to take the place of this capacity.

Secondly, since about half the grain moves by liners and not by tramp ship, there must be better facilities for docking big lake ships where they can deliver easily to the inner harbor in Montreal; because Montreal has been the ocean terminus for liners for a very long time and is likely so to continue.

Unless these big ships can unload and turn around quickly, costs will pyramid in nightmarish fashion and we may be little better off with the new canals than we were with the old.

As you know already, the grain movement, for very sound commercial reasons, has always been an irregular movement. Allowance must be made for very high peaks, especially in the fall. I for one see very little chance to even out the flow because Canada is only one country selling grain among a number, and it must stand ready to make delivery quickly or sales will be lost.

Iron Ore

There is going to be, we hope, a substantial movement of iron ore upward bound, and this will mean a much better balancing of cargo movement. But I must also tell you the fact that it creates a problem too. Practically all the movement expected through the new canals from Prescott easterly originates in or is destined to Lake Erie and above. Therefore it must be superimposed upon the traffic now moving through the Welland Canal; and the Welland is now approaching its effective capacity.

Between 1935 and 1955, the average time of a vessel moving through the Welland has increased from 7½ to about 11½ hours which is in the order of 50%. This canal, which is vital to the whole movement, is approaching saturation and we probably should be prepared for a substantial investment to increase its capacity if there is to be any real hope of a significant addition to the volume to be handled through it.

You will, of course, remember that there are many harbors around the lakes which cannot receive 20,000 ton cargoes. They serve localities which would find such cargoes too large for economical use even if the port facilities were installed. Yet they cannot be summarily cut off.

Therefore, even if there is more movement in big ships than has been true in the past, there will still be a considerable movement in smaller ships, therefore a larger number of lockages. This means the saturation point is closer than it might appear if you assume that all cargoes would be handled in the very largest vessels.

Economy Will Alter

The improvement of the St. Lawrence is probably a project which is going to justify itself, largely because our country is growing rapidly and because it is a by-product only of an electric development. But there is no reason to think of it as the immediate source of an enormous profit.

There is going to be a development period in which the economy will gradually alter as it absorbs this new facility into the national life. If an unduly high set of tolls is set up in the early years it may hinder rather than help in that process.

The most important thing to remember now is that great as our investment will be before the project is finished about 1958, we will not be able to sit by and watch the profits roll in.

We must be ready, within reason, to make ancillary investments in additional accommodation for grain in the lower St. Lawrence, and whatever may be required to keep traffic moving through the Welland. Otherwise we will fail to draw the full benefits which are possible from the money which is now being spent.

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Canadian Great Lakes Ports
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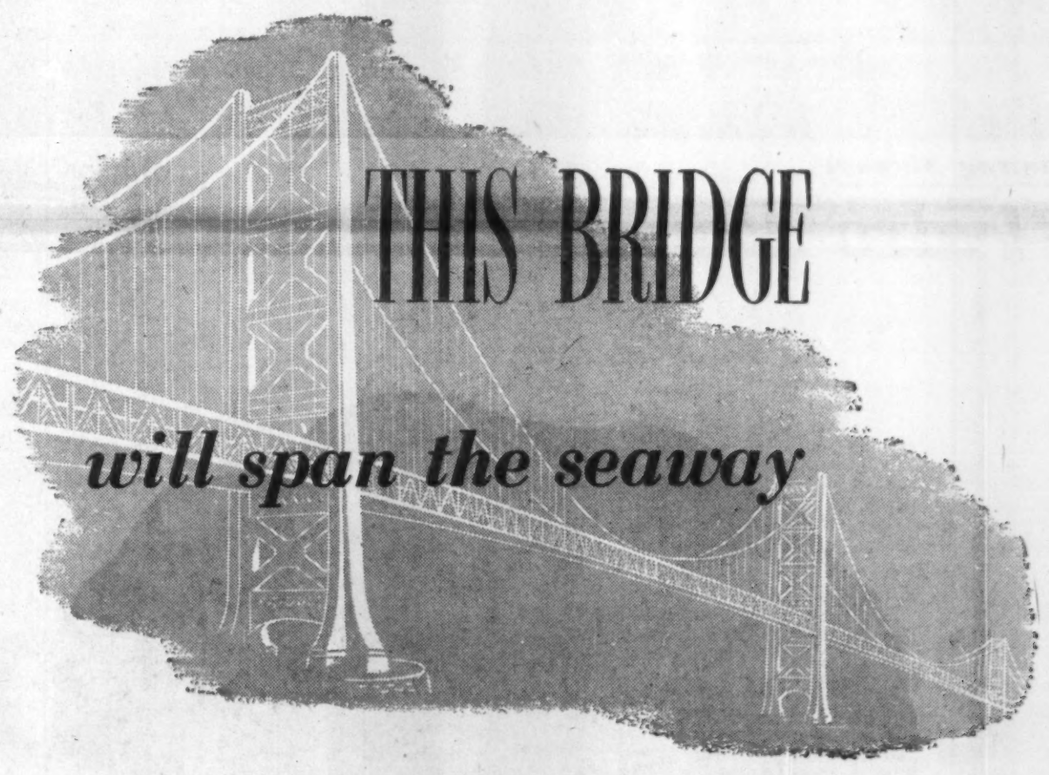


THIS BRIDGE

will span the seaway

It's a phantom bridge which nobody has ever seen, but all know it's there just the same. Traditions are its foundations, and ideals its lofty supports. Each span is a measure of hope in the future . . . each new span another link in the twin destinies of two friendly nations — the United States and Canada.

There have been many such links in the past. Here again, in the St. Lawrence Seaway Project, we've added another span — another instance of united action which will surely reap immense benefits to both peoples.

Yes, that bridge is there all right — invisible, yet never stronger . . . never wider . . . never more real than it is now — reaching over the International Seaway.

CANADA'S FIRST BANK
working with the U.S. and Canada...

Almost from the time of its foundation 139 years ago the Bank of Montreal has been contributing to the better understanding of the peoples of Canada and the United States by facilitating the flow of goods and information across the "border without bayonets".

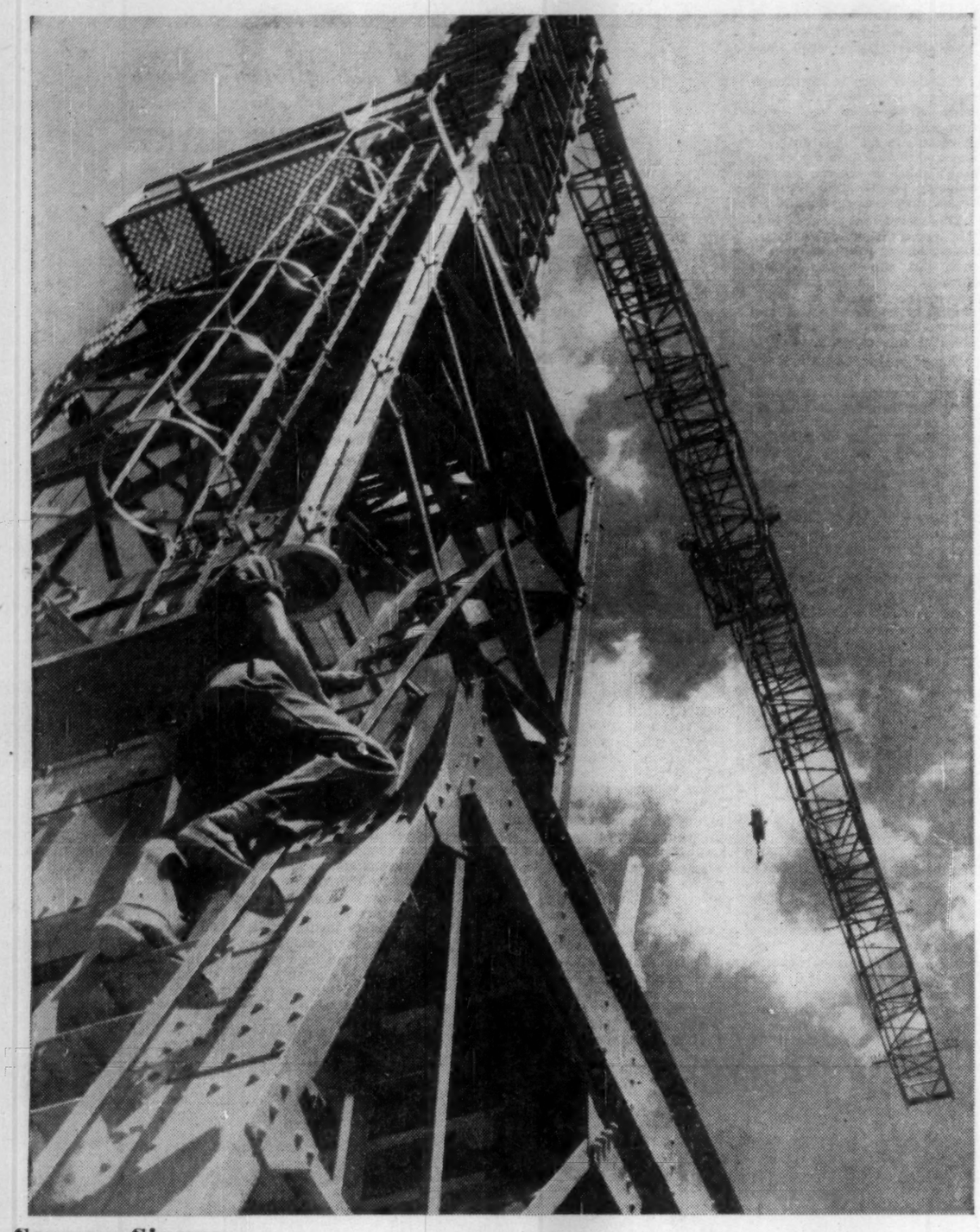
It was in 1818, just one year after its establishment in Canada, that the B of M appointed Prime, Ward and Sands as its representatives in New York. Forty-one years later, the bank opened its own agency in New York, and followed later with offices in Chicago and San Francisco.

Today, with more than 675 branches across Canada, and with offices in New York and San Francisco and a special representative in Chicago, the Bank of Montreal is well qualified to help develop new and more fruitful relations between the two nations.

MY BANK
TO 8 MILLION CANADIANS
B of M

BANK OF MONTREAL
Canada's First Bank

WORKING WITH CANADIANS IN EVERY WALK OF LIFE SINCE 1817



Seaway Sinews:
Worker climbs the great gantry crane at Cote Ste. Catherine Lock, Montreal.

Man Has Built Own Sea-Lanes

The man-built sea routes of the world have been developed mainly during the last 100 years. Their story is one of vast effort and expense accompanied by failure and political dispute.

Here is a comparison of the background, development and importance of four of the major canals:

Suez Canal, opened in November, 1869, connects Port Said on the Mediterranean with Suez on the Red Sea. It provides a short cut for shipping between Europe and the East, by-passing Cape of Good Hope.

Total length of the canal is 101 miles, with a minimum width of 197 ft. Average time for the transit is 11 hours, 18 min. Annual net tonnage of vessels using the canal exceeds 100 million.

Prior to Egypt's move last week, management of the Suez Canal Co. was in the hands of a board of 32 directors. The original capital of the company was 200 million francs in shares of 500 francs each. These were divided into two 250 franc shares in 1924. The British Government paid £4 million in 1875 for 176,602 shares, valued in March last year at £35 million.

Suez Canal traffic:

	Number of vessels (000)	Net tonnage (000,000)
1950	11.7	81.8
1951	11.7	80.3
1952	12.1	86.1
1953	12.7	92.9
1954	13.3	102.5

Panama Canal, opened to traffic in August, 1914, joins the Atlantic and Pacific oceans. It cost $366 millions to build and has 12 locks in twin flights. Total length is 50 miles and the channel is 300—1,000 ft. wide at the bottom. Transit takes from seven to eight hours.

The canal is of the greatest importance to Canada, enabling a year round route between the ports of British Columbia and Europe.

Panama Canal traffic:

	Number of vessels (000)	Net tonnage (000,000)
1950	5.4	28.0
1951	5.6	27.1
1952	6.5	30.6
1953	7.4	36.6
1954	7.7	38.0

Welland Ship Canal, crossing

(Continued on page 45)

Remember the old saying . . :

"Let any man build a better mousetrap, and the world will beat a path to his door!" — Well . . .

Cornwall

Isn't building or selling better mousetraps . . . but Cornwall is the

Heart of Power and Seaway Work

Millions of dollars are being spent on this tremendous St. Lawrence River Project at Cornwall's doorstep, and CONSUMER DEMANDS ARE AT AN UNBELIEVABLE PEAK in the thriving City of Cornwall, where annexation has added 29 square miles for residential and industrial expansion.

EVERYTHING IS ON THE MOVE AT CORNWALL WHICH IS A VERITABLE HIVE OF ACTIVITY

ASTUTE BUSINESSMEN recognize the enormous activity and the great potential of the Cornwall consumer market and are "beating a path" to the trading area where they know they can get sensational results. And the only effective media for reaching consumers in the Cornwall market is

The Daily Standard-Freeholder

The only family newspaper giving blanket coverage of the City of Cornwall and Seaway Valley.

CORNWALL, ONTARIO

13,704 PAID COPIES DAILY average for six months ending June 30

Tunnels Cut Bottleneck For Hydro

(Continued from page 41)

of more than 25,000 bolts.

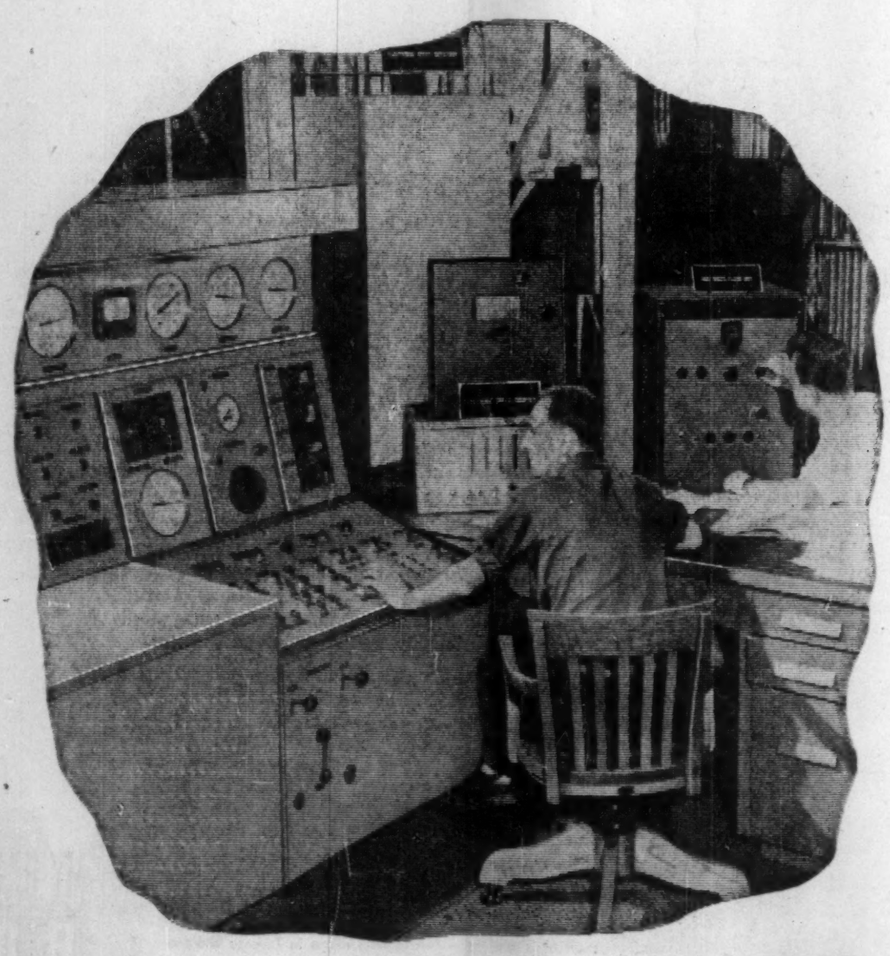
The larger tunnel was designed to accommodate 22-ton trucks and the usable concrete roadway is over 12 ft. wide. Roadways leading to the tunnels have been paved with asphalt. The smaller tunnel is used by pedestrians, mainly workers going to and from the powerhouse area.

The conveyor belt, which is part of the system taking aggregates to the stockpile sector near the powerhouse concrete mixing plant, the steel pipe through which bulk cement is blown to reach the storage silos adjacent to the concrete plant, and phone and power cables are routed through the small tunnel.

Supervising construction of the new diversion canal were two officials of Iroquois Constructors Ltd., Walter Brown, assistant general superintendent, and Tom O'Neill, resident engineer, both of whom have had considerable experience in tunnel building. Magnus F. Johnston, assistant to the powerhouse divisional engineer, inspected the work progress for Ontario Hydro.

Traffic using the double set of tunnels, especially the larger passageways, is carefully regulated by means of conventional traffic lights. These are synchronized to let drivers of vehicles getting the green signal pass without delay under both channels.

The thrill to most motor vehicle operators, particularly visitors, is when they drive under a boat passing in the canal above realizing that here Ontario Hydro and the powerhouse contractor have devised an ingenious way to eliminate a bottleneck.



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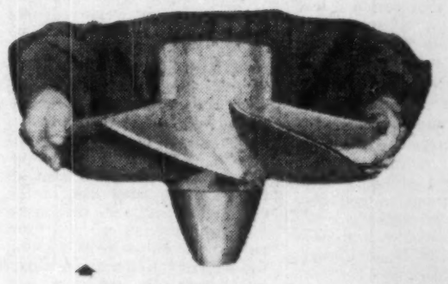
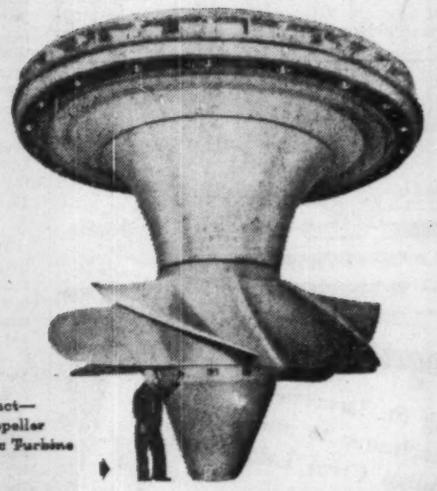


16" operating scale model



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Canada's waterpower potential is second to none—Dominion Engineering, this country's major manufacturer of hydraulic turbines, is continually working to improve its recognized standard of high efficiency.

By using modern mechanical and electronic equipment the power of rivers is simulated in a hydraulic lab. Here, scale models of turbines, similar to the one shown at top left, are pretested under operating conditions BEFORE the design details of these massive modern 'water wheels' are approved.

This testing of the initial design reveals areas of wear and details of performance, which, when combined with Dominion's hydraulic engineering experience, results in turbines of maximum efficiency requiring a minimum of maintenance—a combination which gives Canada 'cheap power' thus paving the way to her industrial greatness.

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Seaway Sinews:

A 20-ton truck dumps fill, bulldozer flattens it, at St. Lambert, Que.

Man Has Built Own Sea-Lanes

(Continued from page 44)

the Niagara Peninsula, joins Lake Ontario and Lake Erie. With eight locks and a total length of 27.6 statute miles, it corrects a difference of 327 ft. in the levels of the two lakes.

Its importance in the chain of navigation, 2,339 miles long, between the Straits of Belle Isle up the St. Lawrence to Duluth, can be gauged by its development during the 132 years since it started.

Minimum depth of the canal is 25 ft. A three year scheme to increase this to 27 ft. began a few months ago.

Welland Ship Canal:

	Vessels (000)	Net tonnage (000,000)
1950	7.4	13.1
1951	8.1	14.3
1952	9.1	16.1
1953	9.3	18.0
1954	8.4	16.7

Sault Ste. Marie Canal, joining Lake Superior and Lake Huron, handles more shipping than any other system in the world.

There are two canals at Sault Ste. Marie, with four locks on the U. S. side and one on the Canadian side. Little more than one mile in length, the system adjusts a difference of 19 ft. in the level of the lakes.

Sault Ste. Marie Canal:

	Vessels (000)	Net tonnage (000,000)
1950	21.0 (3.6)	80.3 (3.5)
1951	24.7 (4.2)	94.7 (4.1)
1952	23.1 (4.7)	86.6 (4.8)
1953	25.6 (5.1)	104.1 (5.6)
1954	17.0 (4.3)	67.7 (4.1)

Canadian locks in brackets

Tolls Ticklish 'Building' Job

(Continued from page 41)

the Seaway—which brings up the problem of determining just which projects, completed over the past decades by Canada, should properly be included.

Collecting the tolls is another matter for much consideration. An international authority might be set up to do this job. Or each country could have its own toll-collector in its own territory.

Some simple collection system might work in the case of ships running the entire length of the seaway. But it will be necessary to collect tolls also from ships which use only part of the route, and the system must therefore be devised to ensure that both types of traffic pay their way.

The Canadian committee has already made a study of the Panama Canal's toll system. There, cargo-carrying ships pay 90c per 100 cu. ft. of cargo space. If a ship is completely free of cargo, it pays 72c per cu. ft. The rate is the same regardless of type of commodity.

Panama Canal

The Canal Zone is a 10-mile wide, 23-mile long strip of land from Atlantic to Pacific. The Panama Canal Co., a U. S. version of a Crown corporation, holds sovereignty over the Zone.

Tolls collected there are intended to cover the costs of administering the Zone, incidental charges such as pilotage and navigation aids, operating expenses of the canal, and amortization of capital. Ships are insured against damage while in the Canal Zone.

But Panama methods are not necessarily applicable to the St. Lawrence. One government is involved with the canal, two with the seaway. All traffic on the canal goes straight through from end to end, while seaway traffic might begin, call, or end at dozens of ports. And Panama tolls were set so high originally that it took many years to attract a satisfactory volume of shipping.

Both Canada and the U. S. plan to profit from Panama's experience. At mid-1956, nobody knows if the two countries will see eye-to-eye on the best plan. Both sides hope there will be agreement on this enormously complicated problem. But, if irreconcilable differences crop up, each country will still be free to follow the path of its own self-interest and set its own toll schedule.

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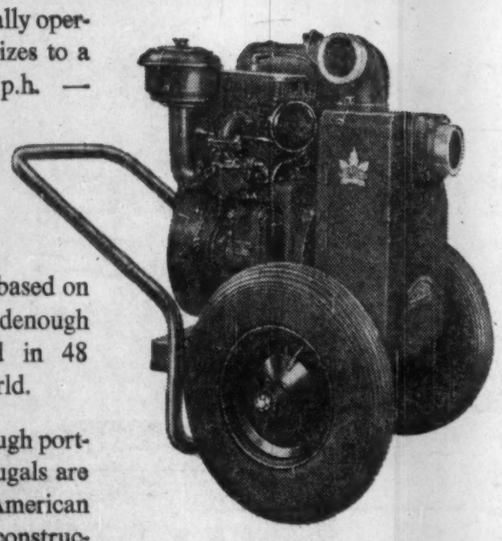
These Godfrey-Goodenough portable, self-priming centrifugals are equipped with standard American engines. Their sturdy construction, compact design and easy maintenance ensure dependable, trouble-free service all the year round.



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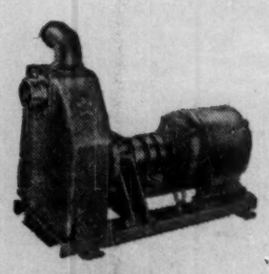
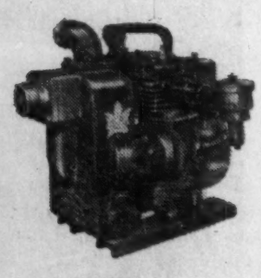
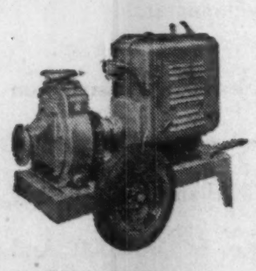
Capacity: 15,000 g.p.h.
Maximum Head: 110 ft.
Total Weight: 215 lbs.
Wheel mounted. A versatile, highly manœuvrable, light weight unit for general contracting work.



3"—MODEL 300 SM
Capacity: 12,000 g.p.h.
Maximum Head: 110 ft.
Motor Size: 7½ HP.
A particularly acceptable pump for industrial or construction work where electric power is available.



2"—MODEL 200 GA.
Capacity: 6,500 g.p.h.
Maximum Head: 70 ft.
Total Weight: 55 lbs.
Easily carried by one man. Ideally suited for smaller construction jobs, irrigation, drainage, and numerous other applications.



6"—MODEL 600 GT.
Capacity: 90,000 g.p.h.
Maximum Head: 100 ft.
Total Weight: 1530 lbs.
A high capacity, heavy duty pump. Plenty of reserve power for big construction jobs, yet fully portable and compact.

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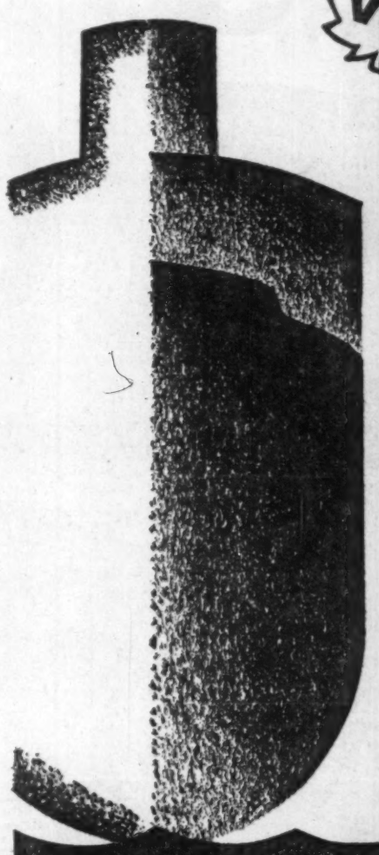

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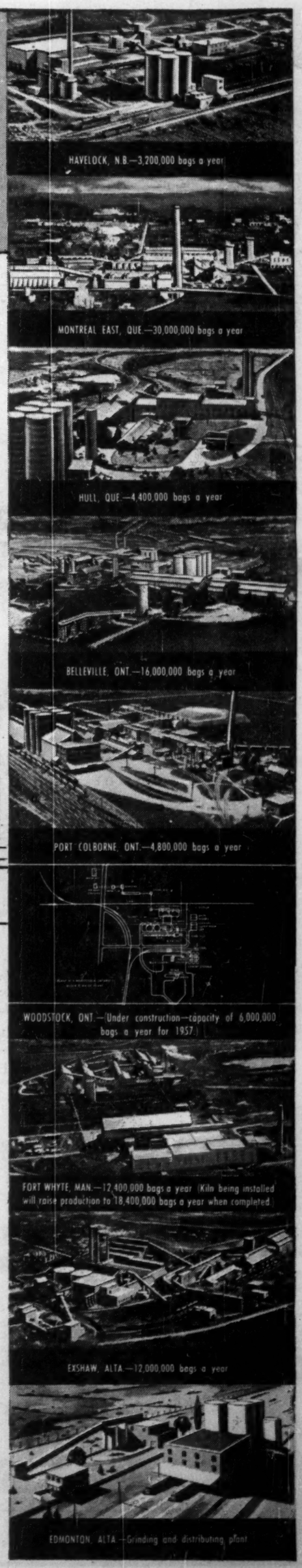

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DEEP WATERWAY

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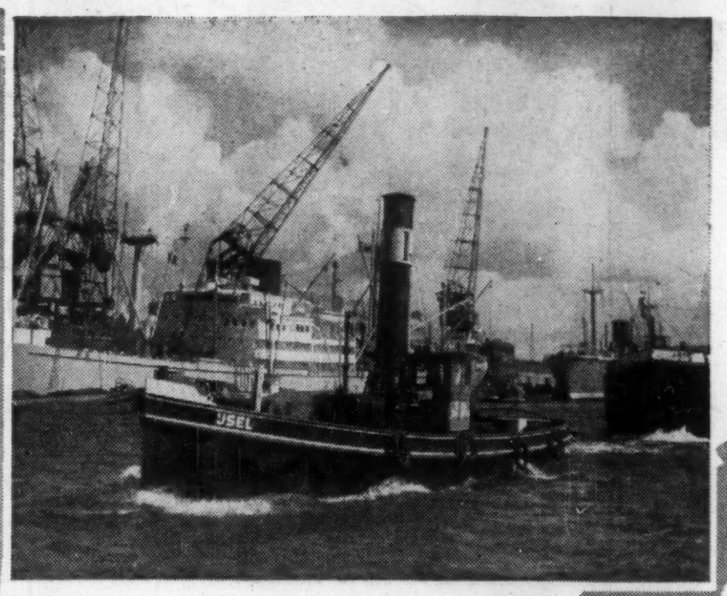
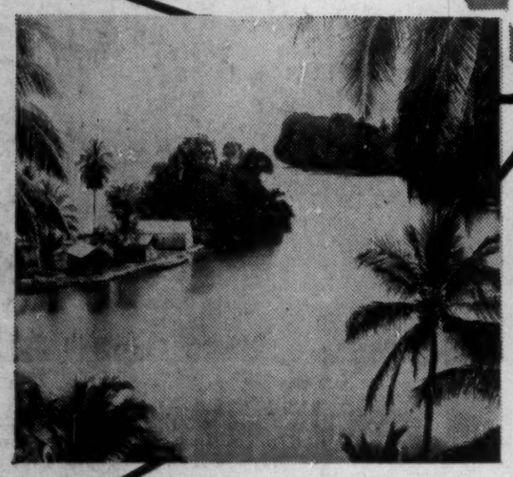
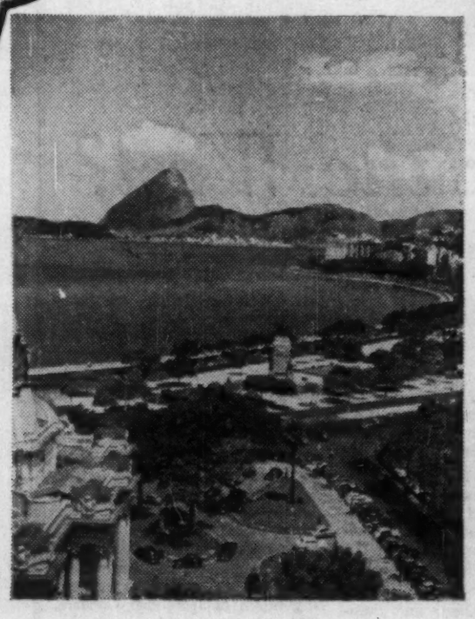
Add One to Seven Seas: Inland America







Honolulu
Yokohama
Shanghai
Singapore

Melbourne

Fort William
Duluth
Sault Ste. Marie
Chicago
Sarnia
Hamilton
Toronto
MONTREAL
Kingston
New York
New Orleans
Rio de Janeiro
Buenos Aires
Liverpool
Hamburg
Le Havre
Lisbon
Gibraltar
Istanbul
Port Said
Bombay
Colombo
Cape Town

DISTANCES FROM MONTREAL TO A CONTINENT'S HEARTLAND in miles

Kingston	182	Windsor	612
Toronto	338	Sarnia	674
Port Weller	342	Sault Ste. Marie	943
Hamilton	344	Milwaukee	1,176
St. Catharines	346	Fort William	1,215
Welland	359	Chicago	1,241
Port Colborne	367	Duluth	1,334

DISTANCES FROM MONTREAL TO WORLD PORTS in miles

Bombay	9,200	Liverpool	3,300
Buenos Aires	7,000	Melbourne	12,300
Cape Town	7,800	New Orleans	2,600
Colombo	9,200	New York	1,100
Gibraltar	3,500	Port Said	5,700
Hamburg	3,900	Rio de Janeiro	5,800
Honolulu	8,600	Shanghai	13,200
Istanbul	5,600	Singapore	11,500
Le Havre	3,500	Yokohama	12,000
Lisbon	3,200		

This is the Seaway...

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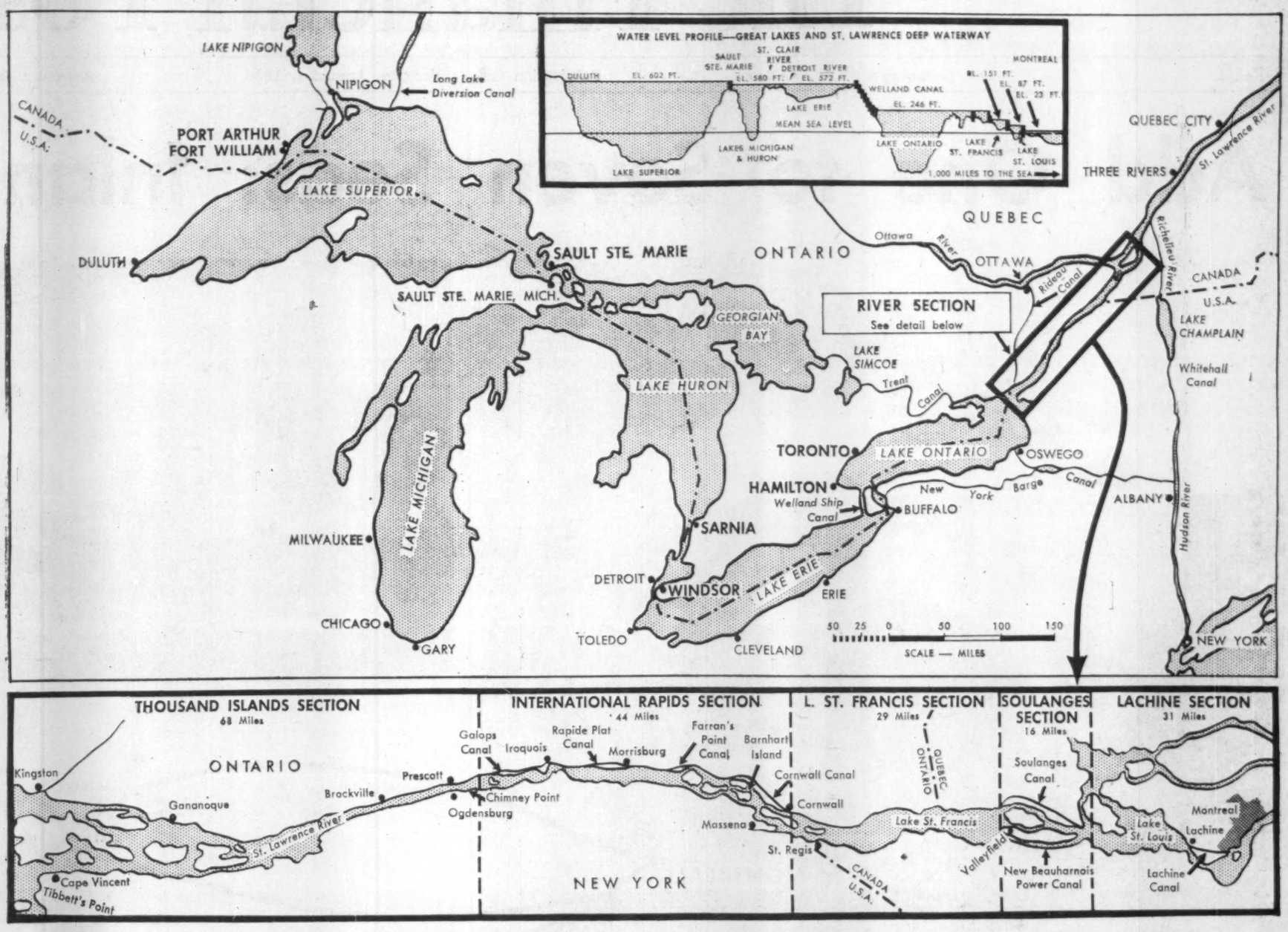

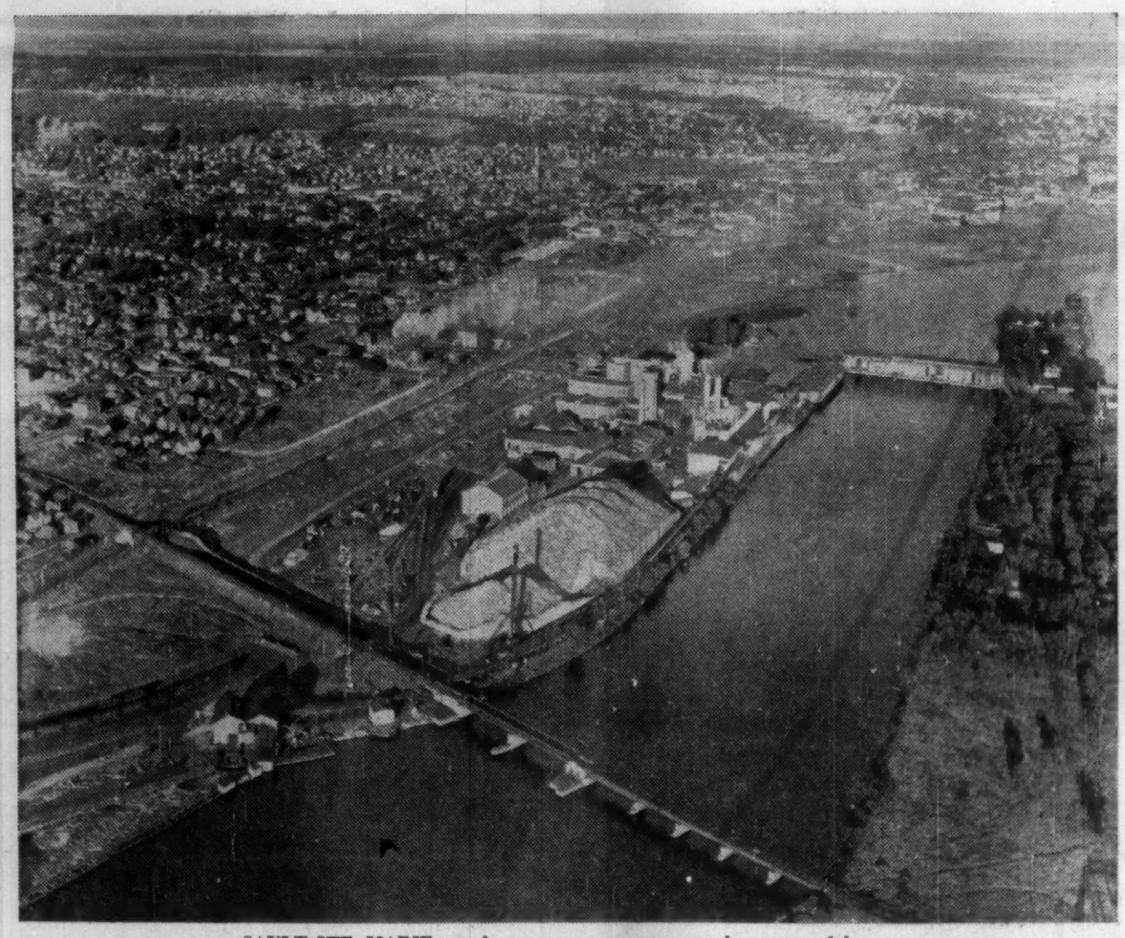

SAULT STE. MARIE: steel centre, port, gateway to the western lakes:

The 'Soo': Hub For the West?

Waterway Could Mean Great Changes for Canal City

The Seaway could make Sault Ste. Marie the world's gateway to the Canadian West.

Here's how the Canal City (pop.: 37,000) figures its position in the Seaway picture.

It's inclined to think that Chicago will become a major port of call for foreign ships, since it is a huge market in itself and also serves a very large area.

If so, goods for Western Canada likely will be carried aboard Chicago-bound vessels.

Where will these goods be unloaded? Sault Ste. Marie. In a brief to Federal Transport Minister George Marler earlier this year, the Seaway Committees of the Sault Chamber of Commerce said:

"We think these cargoes (destined for Western Canada) will be too small to make the run across Lake Superior economically sound."

If the city is to take advantage of this situation, it needs greatly expanded facilities. Yet it hasn't the necessary capital for expansion. So it wants federal help.

The Seaway Committees said: "Present dockage and wharfage facilities are inadequate for the purpose of large transfer of cargoes.

"We would need two 800-ft. wharves with sheds to accommodate at least five 8,000-ton cargoes and with necessary railway track, scales and bonding facilities.

"Also required will be adequate refrigerated sheds to accommodate cold storage commodities. . . .

"It is our considered opinion that the Department of Transport or its nominee should erect and operate these facilities."

If such expansion takes place, the Sault envisions easy access to world markets for many of the area's major producers including **Mannesmann Tube Co., Chromium Mining and Smelting, Abitibi Power & Paper.**

Carbide from Michigan could be shipped in bond; many mining products and iron and steel products (the latter from **Algoma Steel Corp.**) would be available for ocean-going vessels.

Inbound: Coal, ore and limestone for the steel industry; machinery, fuel oils, gas, lubricants, food, building materials, liquor, textiles, housewares, sugar, flour, many other essentials of everyday life.

The Sault feels it needs a sugar refinery (there are none within 300 miles), an oil tank farm, a big grain terminal. All these will be more likely to come to the city if it develops a big Seaway traffic.

Population of the region served by the city has risen to around 80,000. The Sault's strategic location on one of the world's busiest ship canals (allowing access to Lake Superior from Lakes Huron and Michigan) makes it the sole distributing and general manufacturing centre in a vast district covering much of Northern Ontario. The major resources of this region: Lumber and minerals.

The city's planning for the Seaway era is in a preliminary stage, much depending on financial help from senior governments.

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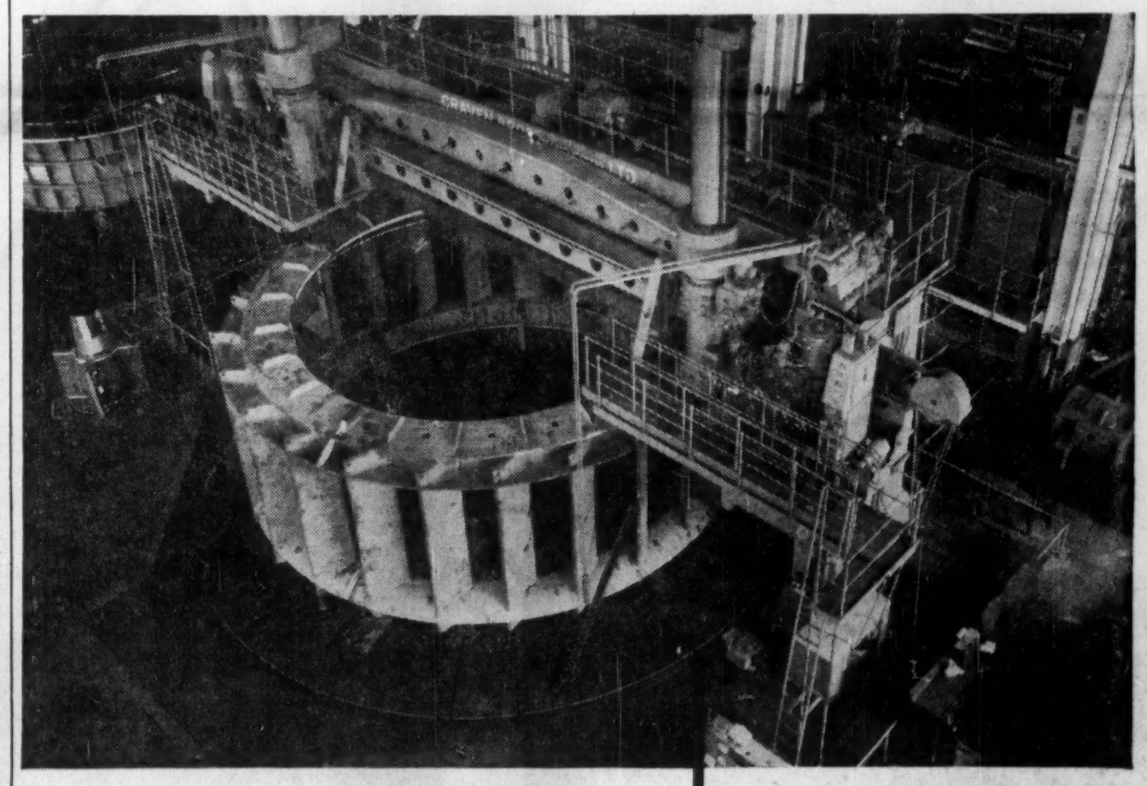

One of the sixteen 33 ft. diameter speed rings for the St. Lawrence turbines on the table of a 42 ft. boring mill. This mill is an essential tool in the production of equipment of these dimensions and is the largest mill in Canada. It is located in the Inglis-English Electric works at Scarborough, Ontario.

FOR THE SEAWAY POWER DEVELOPMENT ENGLISH ELECTRIC WILL SUPPLY:

★ **ALL OF THE SIXTEEN - 75,000 HP TURBINES**

These fixed blade propeller units will provide the total 1,200,000 HP that is Canada's share of the power output from this international project. They are being built in the John Inglis plant in Toronto and the Inglis-English Electric plant at Scarborough, Ontario.

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The nerve centre of the whole station that controls all the functions of normal operations. English Electric relays are used throughout the station to protect against and warn of any abnormal operating conditions that may develop. All the control boards are being built in the English Electric plant in St. Catharines.

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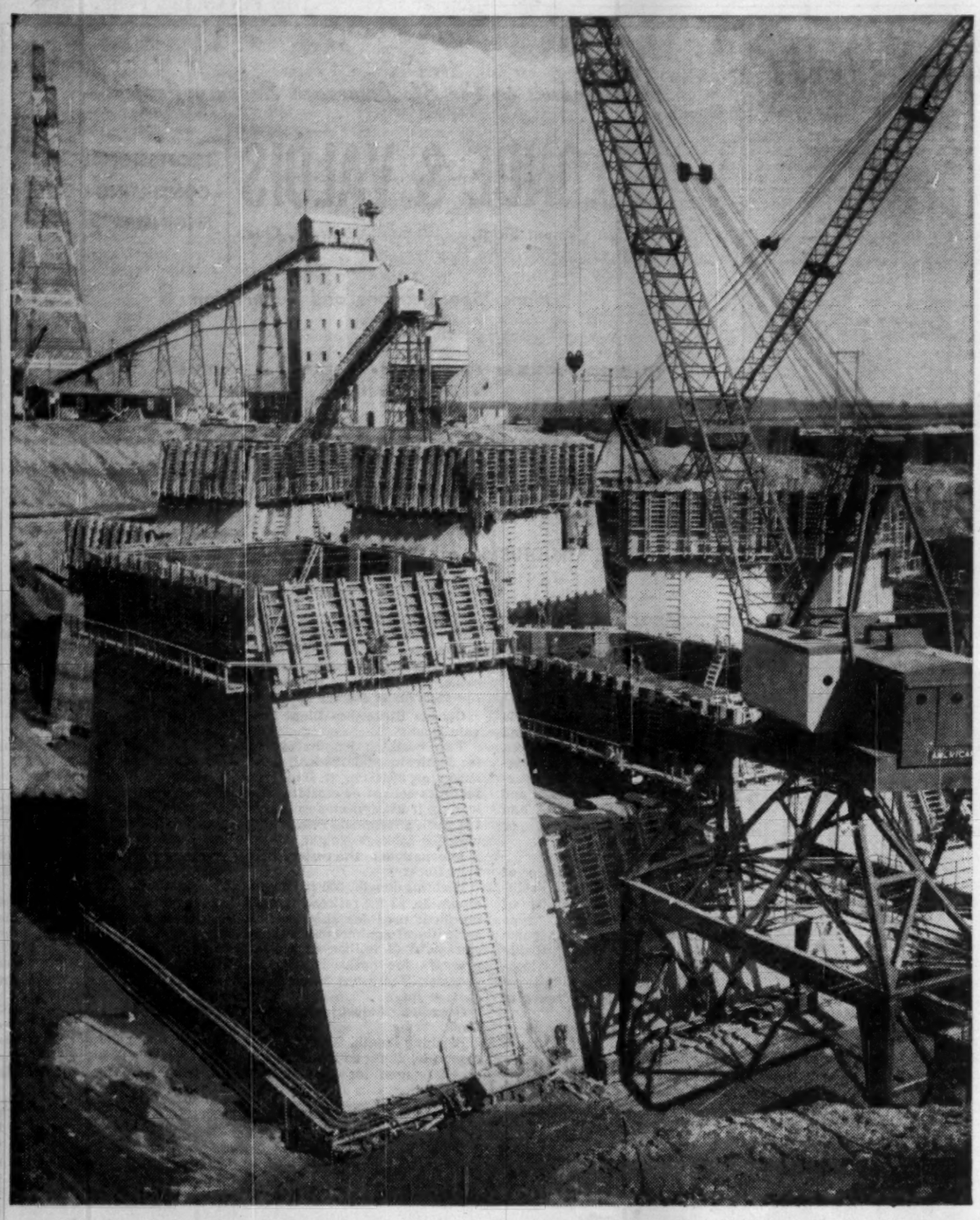

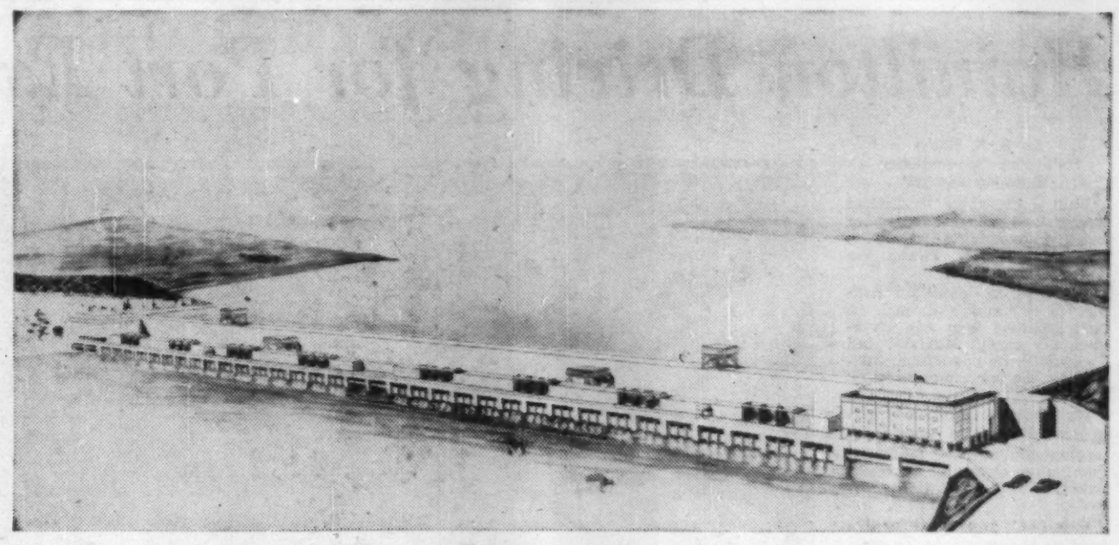

← Today

↑ Tomorrow

At left are portions of the U-abutment and wingwall sections of the Ontario Hydro half of the giant St. Lawrence powerhouse. So far, more than 75,000 cu. yds. of concrete have been poured into the structure. At right is an artist's conception of the entire completed power station. The powerhouses will be 3,300 ft. long, containing 32 generating units. The Ontario powerhouse will have facilities for the public to view its equipment. Its construction is called the "modified outdoor type," which means that it will have no conventional superstructure over the generating room. The generating units will be protected by removable housings. Switchyard for the Ontario powerhouse will be two miles north.

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Euclid Equipment Helps Keep Seaway and Power Work on Schedule

The St. Lawrence Seaway and related power projects in Canada and the United States is a tremendous undertaking — one that requires highway and railroad relocations, construction of dams, bridges and canals. In all nearly 100 million yds. of earth and rock excavation must be moved. It's a rugged job that demands the best in men and machines.

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Hamilton Driving for Port Expansion

By K. S. FORD
Industrial Commissioner
Hamilton District

With a capacious landlocked harbor and a wide array of healthy, expanding industries, Hamilton eagerly awaits the Seaway opening.

Fast-growing Hamilton handles more tonnage through its port facilities than any Canadian city except Montreal and Vancouver. Its population: 230,000. In the metropolitan area: 290,000.

It's planning ambitiously and in careful detail to become the leading trading and industrial distribution centre on the Great Lakes, with the aid of Seaway traffic.

Hamilton's great rival for this position is and will be Toronto.

The city centres Canada's fabulous Golden Horseshoe of industry—extending from Oshawa around Lake Ontario to St. Catharines. Already it is acquiring large numbers of secondary industries. The Seaway should speed this process.

A big advantage: Hamilton has two of Canada's four basic steel producers—**Steel Co. of Canada, Dominion Foundries & Steel.**

At present Hamilton Harbor Commissioners have seven Commission docks covering 77½ acres of waterfront for dockage, bonded warehouse and storage facilities.

Over-all, the Harbor Commission controls 14,620 lineal ft. of docks, 12,535 ft. of which are suitable for cargo ship use and 2,085 ft. for small craft moorings.

In addition, there are private docks, mostly owned by industrial companies, with a total of 21,000 lineal ft. The combined total: More than six miles of docks presently available and being used.

Aware of the need to be ready for Seaway business, Hamilton Harbor Commissioners have drafted an extensive program for future development.

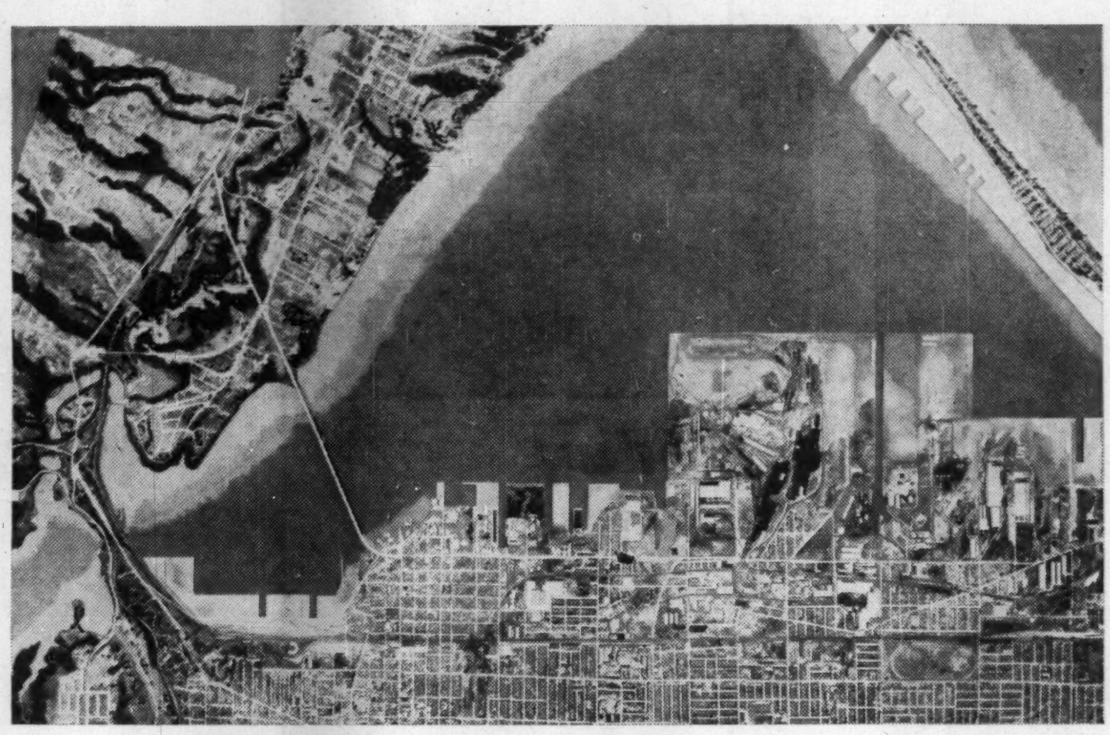
The Federal Government has already appropriated $2 million for the extension of the Wellington Street dock area. The first contract of $800,000, mostly for fill to create new land for lease and warehouse expansion, was awarded this spring and work is continuing.

The commissioners have made strong representation at Ottawa for the second item in their program—a new terminal and docks at Ship Street, between the **Canada Steamship Lines** terminal and **International Harvester Co. of Canada.**

The third major project which is being pressed on Ottawa is a new slip and public dock at Strathearne Ave. in the far east end of the harbor, to serve the developing industrial area in the Beach Road, Parkdale and Woodward area.

The Strathearne Ave. project would involve dredging a channel and turning basin. Already two major industrial companies are interested in the Strathearne Ave. dock and the prospect of Seaway business. These companies, both of a chemical nature, would spend initially a total of $7 million between them on plant construction and equipment. Their site investigations are nearing the final stages.

Looking further ahead, the Harbor Commissioners have long-range plans for creating additional harbor dockage and industrial land by filling in the bay side of Burlington Beach, the sand strip which guards the east side of the harbor, and a portion of the bay adjacent to the CNR Stuart Street yards.



HAMILTON PLANS these developments for its future Seaway harbor. A model.

A further proposal or suggestion, admittedly in the dream stage, is a new bridge which would link the harbor's north shore and the industrialized south side for trucks and other vehicular traffic.

The most serious traffic problem in Ontario—the Burlington Beach lift bridge—will be eliminated by 1958 or earlier when the Burlington Skyway is completed.

Biggest Bridge

This $15 million structure over 1½ mi. in length is the biggest bridge project ever tackled by the Ontario Government. It will speed truck traffic from the rapidly developing east-end industrial area to Toronto markets as well as open up the new Saltfleet industrial area of some 800 acres.

Fifty-one shipping lines now use the port of which 19 are foreign companies.

A total of 1,566 vessels entered or left in 1955.

Last year an all-time record for tonnage was established amounting to 7,519,961 tons. This was 1,879,244 tons more than the 1954 total.

The important role played by the steel mills is emphasized by the tonnage breakdown for 1955:

Iron ore: 3,234,279 tons; coal, 2,859,721 tons; scrap: 215,697 tons.

Outward commodity shipments of general packaged freight such as agricultural implements, automobiles (**Studebaker** and **Austin**), army vehicles (shipped to NATO countries in Europe), totaled 312,074 tons.

The list of countries whose vessels come to Hamilton includes France, Germany, Norway, Sweden, Finland, the United Kingdom, the U. S. and the West Indies.

There is considerable speculation as to just what the Seaway will mean to local industrial companies. Some executives of firms have misgivings about the Seaway, arguing that it may increase competition from cheaply produced European goods.

Officials of other companies, such as International Harvester, are sufficiently sold on the Seaway's benefits to launch a $2,-million program of dock extension.

Harbor Commission officials believe much of the increased tonnage from the completed deep waterway on the St. Lawrence's upper reaches will be in iron ore shipments from Labrador.

Certainly the current expansion programs of basic steel producers are going to increase the tonnage handled in Hamilton harbor in the near future.

Steel Company of Canada Ltd. is busy on the first stages of a $77 million development to be spread over the next 18 months. Dominion Foundries is hard at work on a $15 million program for 1956 which includes an additional blast furnace, extension of its oxygen steelmaking facilities and increasing of its electrolytic tinplating capacity.

New Industries

In the wake of these big developments, new secondary industries using steel in some form or other are springing up. Established plants are planning expansions.

Here are details of harbor facilities:

Marine dock:

This marine railway and pier at the foot of James St. N. can handle for general repairs vessels up to 100 tons. Repair facilities are provided by Hamilton concerns. Winter storage for small pleasure craft is available in this area and used extensively.

S.S. Lady Hamilton, S.S. Macassa:

During 1955, more than 50,000 passengers were carried by these pleasure boats operated for the public by the Harbor Commission.

Here is berthing space of 6,000 ft. with a depth of water 23 ft. Freight shed area covers 28,000 sq. ft. There are cranes and lift trucks for handling freight, a railway siding, power, storage for bonded goods, package freight, sugar, etc.

Wellington St. dock:

Wellington Street dock and slip is 1,920 ft. long, with warehouses of approximately 81,000 sq. ft. It has cranes, lift trucks, an unloading platform with railway siding, capable of handling machinery, bulk cargo, deck loads. Water depth: 23 ft.

Terminal No. 1 Dock:

This dock, between Wellington St. and Victoria Ave. N., covers 18 acres of storage and light manufacturing area; 4,115 ft. of dock is dredged to 23 ft. Main uses: For coal, sand, stone, oil, storage, vegetable oil plant, Imperial Oil intake line. It accommodates all types of freighters and tank steamers.

Terminal No. 2 Dock:

This is at the foot of Victoria Ave. N. extending easterly and covering an area of 25 acres, with 3,000 ft. of dockage dredged to 23 ft. It handles construction materials, coal, sand and stone, has a railway siding and loading and unloading conveyor equipment.

Stelco private dock:

Several berthing lengths of 2,300 ft. to 22 ft. depth. Facilities for unloading consist of three Mead Morrison type bridges with clams and magnets for coal, iron ore, scrap, capable of 1,250 tons per hr.; also locomotive crane and railroad tracks; no sheds; 32½ acres of storage space.

Dofasco private dock:

Berthing length, 840 ft. depth alongside, 22 ft. Handling facilities include two Heyl and Patterson bridge cranes, each of 12-ton capacity, 1,200 tons per hr.; railway track on dock; no shed. Dock is used for iron ore, limestone, steel products and scrap, has 15 acres of storage space.

Canada Steamship Lines Private Dock:

Two berthing lengths of 750 ft.; depth alongside, 23 ft. Freight shed area, 80,000 sq. ft. Handling facilities consist of escalator for loading truck and monorail system inside terminal. Principally used for package freight.

International Harvester Private Dock:

Berthing length, 500 ft.; depth alongside, 23 ft.; railroad tracks, no shed; used for shipment of agricultural equipment and coal storage. A $2 million expansion program for docks is now in progress. There are 21 acres of storage space.

Canadian Industries Private Dock:

Berthing length, 500 ft.; depth alongside, 21 ft.; railroad tracks, no shed; used for gasoline, oil, and sulphur.

By-Product Coke Private Dock:

Berthing length 1,000 ft.; depth alongside, 23 ft. Handling facilities consist of Heyl Patterson-type bridge 400 ft. long, capacity of 400 tons per hr.; railroad tracks; no shed; used for coal; 30 acres of storage space.

Hamilton navigation season is from April 1 to Dec. 15.

There are four companies specializing in shipping, forwarding and stevedoring. Two privately owned tugs (**Hamilton Shipping Company**) are available in the harbor.

Bunker coal and oil can be delivered to ships at dockside since there is storage nearby for three million gal. of fuel oil. It can also be delivered by tank car or pumped direct from the main lines to the vessel.

Three railway companies service the entire dock area: **Canadian National Railways, Canadian Pacific Railway** and the **Toronto, Hamilton & Buffalo Railway.**

KENNETH S. FORD, Hamilton District Industrial Commissioner, was born in Winnipeg, he is the second son of Arthur R. Ford, editor-in-chief of the London Free Press and former Chancellor of the University of Western Ontario. After graduating in Arts from the University of Toronto, Mr. Ford had 15 years' newspaper experience. In 1948, Mr. Ford became public relations writer with the New York firm of Carl Byoir & Associates Inc. which had opened a Canadian Branch office in Hamilton.

During the 18 years that he has lived in Hamilton, Mr. Ford has been president of the Kinsmen Club, chairman of the Kinsmen Fresh Air Camp at Hamilton Beach. He is a member of the Board of Stewards of Centenary United Church.

Participants in the St. Lawrence Seaway Project—

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19-6-19

Seaway Could Boost Lakehead Manufacturing

By ALEXANDER PHILLIPS
General Manager
Northwestern Ontario
Development Association

The end of the Seaway line is 2,250 miles from the open ocean on the rocky lake-dotted doorstep of the North American West.

There on the northwestern shore of Lake Superior stand the Lakehead's twin cities—Port Arthur and Fort William (combined population: 80,000).

It's in water traffic to and from the Lakehead that the comparative advantage of the Seaway becomes greatest, so far as freight costs are concerned.

That's because vessels can go no further inland in Canada than the Lakehead. It's the last chance for trans-shipping to another form of transportation.

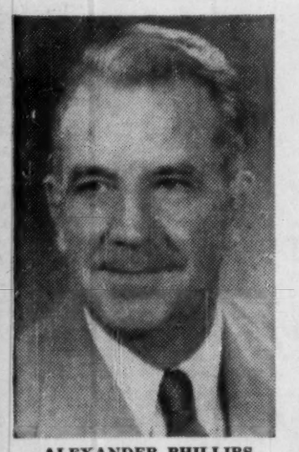
The Lakehead's Seaway hopes:

- Northwestern Ontario's primary industries will enjoy an improved competitive position.
- Manufacturing will be encouraged.
- Warehousing and other distributive industries will mushroom.

These should be the result of combining the Seaway with completion of the transCanada natural gas pipeline.

Added Stimulus

As if anticipating the added stimulus of Seaway and pipeline, more than $250 million will be spent over the next few years in the expansion of forest, mineral and power industries at the Lakehead and in the northwestern Ontario region.



ALEXANDER PHILLIPS

Here are some of the larger projects:

Great Lakes Paper Co. is under way with a $75 million expansion program that will add two new newsprint machines and an entire new cellulose plant at Fort William, increasing paper output alone from 155,000 to 360,000 tons annually. One of the new machines will be the largest of its kind in the world.

Minnesota and Ontario Paper Co. will spend $42 million on expanded output of newsprint and other forest products at its mills in Kenora, Fort Frances and International Falls, Minnesota.

Abitibi Power and Paper Co. will add a new high-speed newsprint machine to its Fort William plant at a cost of $22 million.

Dryden Paper Co. is spending $12 million to $15 million in doubling output of a variety of pulp and kraft products to 142,000 tons annually at its Dryden mill.

St. Lawrence Corp. completed in 1955 installation of a $21-million newsprint machine at its Red Rock mill.

Ontario Hydro-Electric Power Commission will spend more than $80 million on a mammoth, five-year development program. Five projects to be completed between 1956 and early 1959 will add 210,000 kw., to bring total developed power resources of the northwest to 525,000 kw.

Caland Ore Co., subsidiary of **Inland Steel** of Chicago, is in the midst of a $50-million expenditure to develop a high-grade iron ore body leased from **Steep Rock Iron Mines** near Atikokan.

Geco Mines in the Manitouwadge copper-zinc field and **Coldstream** in the Kashabowie copper field are spending millions to bring ore deposits into production.

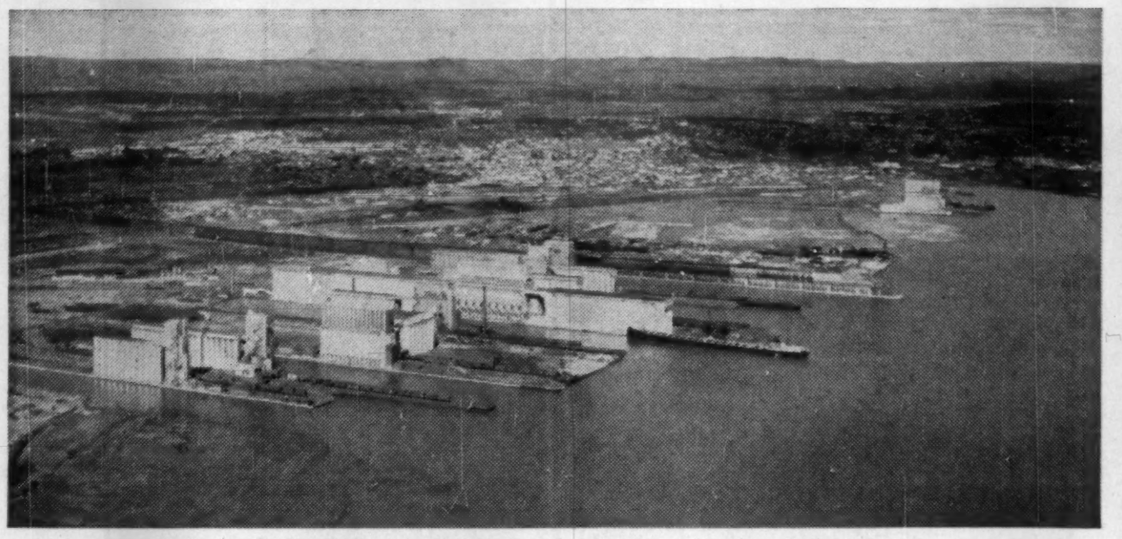
Iron Bay Mines proposes a $30 million-$35 million development of low grade iron ore (estimated up to a half-billion tons) in the Red Lake area.

To process maturing spruce stands north of Sioux Lookout, announcement is expected soon of establishment of a newsprint mill worth possibly $50 million.

"Such development," says E. G. Charnock, chairman of the joint Lakehead Transportation Committee, "is important to the future of our harbors. Still the traffic east and west is the big item.

"The economic prosperity and development of the West will bring reciprocal cargoes here of consumer goods to exchange for cargoes of grain products, pulp and paper, iron ore and other minerals."

Lakehead ports now are handling more than 11 million tons per year. Usually more than 1,600 cargoes are cleared in a navigation season.



GRAIN ELEVATORS, iron ore docks on southern section of Port Arthur's harbor.

FORT WILLIAM'S harbor on the Kaministiquia River; industrial islands at left.

The harbors themselves are magnificent. Located on Thunder Bay and the Kaministiquia River, they are separated only by a civic boundary line.

Public harbors, as distinct from harbors controlled by the National Harbor Board or Port Authority, they have a waterfront area of 34 miles, at least 40% of it available for additional harbor use. Perhaps $50 million has been expended over the years in dredging and breakwater construction.

High on the Lakehead skyline are 25 towering terminal grain elevators with a capacity of 93 million bu., greatest concentration of such storage in the world.

They are equipped to handle any size or type of ship. Seven-hundred-foot lake giants have loaded more than 700,000 bu. of wheat.

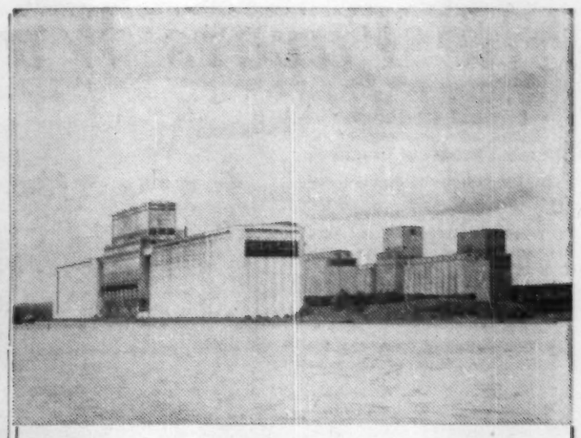
The storage rate on grain storage, unchanged in more than 20 years, and the taxation advantages enjoyed by the co-operative wheat pools have left private elevator companies disinclined to undertake new elevator construction.

Grain men, however, predict that the growth of Canada is bound to require more grain handling and storage installations at the Lakehead in the years ahead.

The **Canadian Pacific Railway** and **Canadian National Railways** operate 12 freight and transfer sheds in the two ports. The seven CPR sheds accommodate 36,100 tons and the CNR's five sheds 33,700 tons, a total of 69,800 tons.

In a report on economic effects of the Seaway, Prof. Harold M. Mayer of Chicago, declared that while the Canadian Lakehead grain elevators are "reasonably adequate and could serve ocean-going vessels with little change in facilities, except for deeper channels, the

(Continued on page 52)



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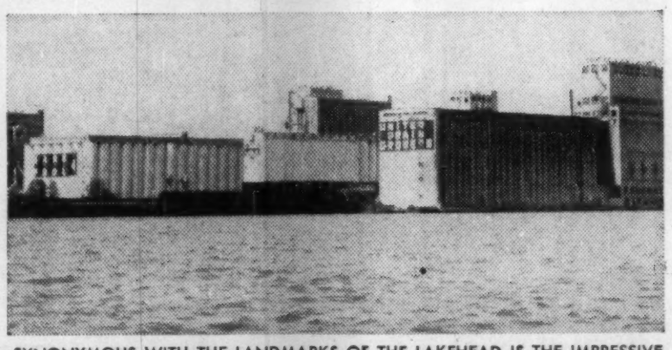
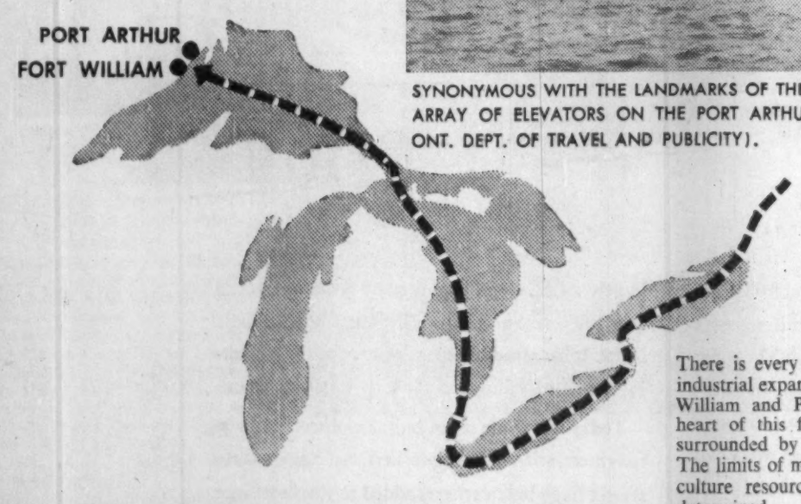
The Canadian Lakehead

Offers Many Advantages for Industry

The Cities of Fort William and Port Arthur are ideally situated at the Head of the Great Lakes. The Lakehead harbour on which industrial sites are available, is the Canadian Terminus of the St. Lawrence Seaway System and is therefore a vital element in the fast growing economy of Canada.



SYNONYMOUS WITH THE LANDMARKS OF THE LAKEHEAD IS THE IMPRESSIVE ARRAY OF ELEVATORS ON THE PORT ARTHUR WATERFRONT—(PHOTO BY ONT. DEPT. OF TRAVEL AND PUBLICITY).



There is every reason to believe in the future industrial expansion of the Lakehead area. Fort William and Port Arthur are located at the heart of this fast growing continent and are surrounded by a wealth of natural resources. The limits of mining, fishing, forestry and agriculture resources of the area are yet to be determined.

In addition to natural resources, this area may boast of an abundant supply of hydro power and in the near future, a natural gas supply. Many other types of industrial fuels are also available to the cities of Port Arthur and Fort William.

The Canadian Lakehead is closely related to both the eastern and western markets by means of the two major Canadian railroads, the Trans-Canada Highway, excellent airport facilities and a natural harbour maintained to meet all the demands of industry.

A hard working and ambitious people supply the labor force required by new industry. These people live and work in surroundings which provide all of the amenities for healthy family life.

There are many reasons why the Canadian Lakehead can expect to witness extensive development in the area. We suggest that further investigation of the industrial location assets of this area would be to your advantage.

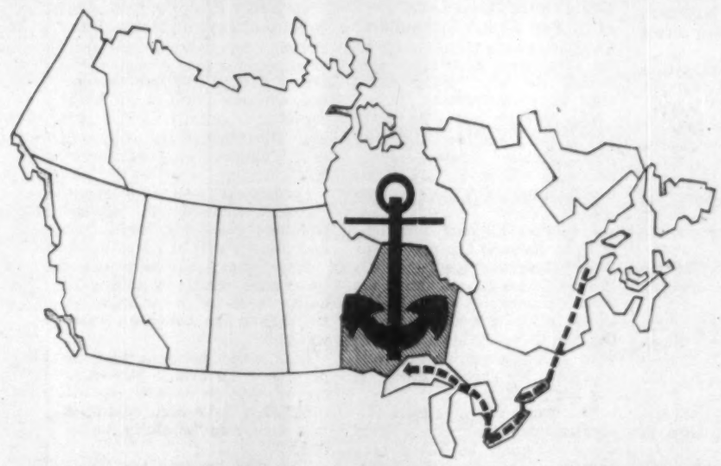
THE CITY OF FORT WILLIAM, WHICH HAS OVER 30 MILES OF HARBOUR FRONTAGE, IS THE HOME OF MANY MANUFACTURING AND DISTRIBUTION INDUSTRIES—(PHOTO BY ONT. DEPT. OF TRAVEL AND PUBLICITY).

The Lakehead Cities are populated by some 80,000 persons, determined to see the Lakehead harbour develop and expand with the completion of the St. Lawrence Seaway Project and the resultant economic prosperity.

THIS AD INSERTED BY THE CITIES OF PORT ARTHUR AND FORT WILLIAM FOR THE PURPOSE OF INFORMING YOU OF THE MANY INDUSTRIAL OPPORTUNITIES AT **THE CANADIAN LAKEHEAD.**

Memo to seaway-minded industry:

CAST YOUR ANCHOR NOW IN THE CORE OF CANADA!



Soon the maritime masterpiece of the Seaway will enable larger vessels plowing the ocean shipping lanes to penetrate to the mid-continental heartland of Northwestern Ontario.

This 212,000-square-mile domain has boundless resources of forests, minerals, arable land and water. More than one quarter of a billion dollars currently is being invested in the development and expansion of the resource industries of this rich region — a telling testament of faith in its dynamic future.

Terminus of lake shipping and gateway to the region and Western Canada are the twin ports of Fort William-Port Arthur. Not only are they the greatest grain-handling centres in the world, but the increasingly important hub of pulp, paper and forest products, ship-building, airplane and automotive manufacturing, iron ore shipping and freight handling. Their superb harbors have 34 miles of waterfront, much of it available for new development.

Trans-continental railways, power and highway networks serve all the mining, forest and farming communities of Northwestern Ontario — Atikokan, Beardmore, Dryden, Emo, Fort Frances, Geraldton, Hudson, Kenora, Keewatin, Nipigon, Rainy River, Sioux Lookout.

Coupled with the seaway, the trans-Canada natural gas pipeline soon will serve Northwestern Ontario. Cheap energy fuel combined with seaway-lowered shipping rates will enhance opportunity for industries and commerce of all kinds to establish successfully in the northwest of Ontario.

Investigate the area by writing to:

NORTHWESTERN ONTARIO DEVELOPMENT ASSOCIATION

Room 208, News-Chronicle Building, Port Arthur, Ontario

Robert J. Prettie, President
Alexander Phillips, General Manager

Site Favors Windsor Role as Seaport

By MURRAY ELDER
Industrial Commissioner
Windsor Chamber of Commerce

In the billion-dollar St. Lawrence Seaway stakes, Windsor should be an odds-on favorite to become a major Great Lakes terminal for ocean-borne commerce.

In its favor:

- Central location.
- Production of whisky, autos and other items of overseas trade.
- Room for dock expansion.
- Good supply of skilled labor among its 189,000 people.
- Experience in international trade, a result of proximity to Detroit and the U. S. mid-western market.

Windsor optimism is backed by the fact that the city is strategically located at the centre of the Great Lakes System. Windsor planning is therefore aimed at becoming the hub of the distribution organization for 15 million people.

WINDSOR spreads along the riverfront opposite Detroit.

A Civic Harbour Committee has been planning for the arrival of the first seaway ship for the last two years. A result of its efforts will be formation of a Chamber of Commerce-inspired Harbour Commission, once necessary legislation has passed Parliament.

With the formation of the Commission, it's expected Windsor's present 6,434 ft. of dockage, mostly privately owned, will be considerably expanded and that adequate facilities (overhead cranes, warehouses and the like) will be constructed to deal with ocean-going vessels.

Time and space are on Windsor's side.

The full benefit of the Seaway will not reach Windsor until the 21-ft. deep bottleneck at Amherstburg, on the Detroit River, is cleared.

This waterway is the responsibility of the U. S. A multi-million dollar program to deepen the upbound Amherstburg Channel and the downbound Livingston Channel will be started this year. Completion target: 1963.

The dredging of the river at Windsor and at the docks will be a comparatively simple matter. Present depth varies between 26 and 30 ft. and most docks have a depth of over 19 ft. alongside. There is a mud-clay bottom.

According to the U. S. Corps of Engineers, ocean commerce on the Detroit River should increase 10 times in the coming 10 years.

Windsor's share, based on the present 12 or so ocean ships each year, should be a minimum of 120. With considerable improvement of docking facilities and aggressive plans to realize the full potential of Windsor's position, this number could be doubled.

As for space and availability of land for dock expansion, Windsor is in a far better position than Detroit.

Only three miles below Windsor, at Ojibway, locations are available for the construction of slips and modern docking facilities. A good road connects the area with the city centre. Rail transportation is near. In addition, the city has promised to make city-owned land available to the Harbour Commission when it is formed.

In Detroit, the nearest available land for dock construction is at Huron River, 20 miles south. Present accommodation for ocean-going ships is at **Detroit Terminals**, which has room for only four ships and has been working to capacity during the past year.

One idea which has received support is the provision of bonded warehouses in Windsor to break down and transship cargoes to various locations in the mid-west.

Thus Windsor could emulate the system which brought England big profits prior to World War II.

The main cargo shipped directly overseas from Windsor now is whisky. In-bound ships generally bring empty bottles.

Norwegian and Swedish steel is brought in by the automotive plants for toolmaking.

Immediately foreseeable Seaway cargoes from Windsor include automobiles and automotive components. **Chrysler of Canada** will be shipping automobiles to the Lakehead in the coming year. This is considered the opening of a very large automobile water trade which eventually could include exports.

Salt and chemicals should benefit from oceangoing ships calling at Windsor. Many products have in the past been sent by land or lake steamer to Montreal for transshipment. They could in future be shipped directly from Windsor.

One problem in the past has been quantities too small to warrant ships stopping at Windsor. Therefore, most goods have been handled through Detroit. With development of Windsor as a transshipping centre and its steady growth, this problem will be eliminated.

During the past year, 14 new industries located in Windsor, seven new plants were built. There were 54 plant expansions included in the 280,523 sq. ft. of new industrial space constructed.

Over a four-year period, there has been an average industrial growth of 11.5 acres of new factory space each year. Expan-

(Continued on page 57)

Industry Hike at Lakehead?

(Continued from page 51)

general cargo terminals are obsolete."

Prof. Mayer reported in his survey that the sheds are designed for side-port loading and discharging from lake package freighters. Modern ocean-going vessels of the type which will use the Seaway load and discharge through vertical hatches.

Port Traffic

An increasing proportion of port traffic — in some cases over 60% — may be expected to be handled shoreward by highway carriers, he added. With all general cargo terminals at the Lakehead owned by railways and about 90% of the waterfront's vacant areas available also owned by railways, it is important, says the professor, that all carriers be given access to the port.

Lakehead shipping authorities are not too concerned over the Mayer report on cargo terminals. They see Seaway traffic as a gradually developing volume, in step with western growth. When ocean tonnage becomes a major factor in terminal volume, they say, the Lakehead will be equipped to meet the needs.

Plans already are afoot for increased iron ore shipping facilities.

The present ore dock which handles the output of Steep Rock Iron Mines, is 1,200 ft. long with 200 pockets holding 350 tons each. In 1955 Steep Rock shipped 2,265,555 tons, approximately a million more than in 1954.

This year Steep Rock aims at 3,250,000 tons. Ultimately, from Steep Rock and Caland Ore, an annual production of 8½ million tons is expected.

In prospect is additional tonnage from Iron Bay. At least double the capacity of the present ore dock will be required.

Present authorized depth of the Lakehead harbors is 25 ft. but some docks have a bit less.

The problem of deepening differs in the two harbors, Port Arthur having lakeshore slips protected by breakwater while Fort William has, at present, mostly river frontage. Authorities report that maximum depth may not be necessary in all cases but where it is, dredging can be done.

In the past several years, ocean vessels of about 2,000 tons, perhaps a dozen a year, have plied into Lakehead ports for grain cargoes. Deepening of the upper lake channels will enable 8,000-tonners to discharge and load cargoes.

Bulk Cargoes

Shipping men here believe that bulk cargoes, such as grain, coal, ore, pulp and paper will continue to be carried in lake bottoms. The lake carriers are cheaper to build per ton of cargo and are easier to operate, with less manpower than the ocean type.

The great gain of the Seaway, it's emphasized, will be elimination of cargo transfers. In the case of grain for export, there is now two transfers, and often a rail haul, before the cargo is in an ocean vessel.

It's estimated that 5c-6c bu. can be saved on transportation costs on export grain.

There will be greatly increased shipping of pulp and paper products as the 10 major mills of the northwest, four at the Lakehead, boost output to approximately one million tons of newsprint and an equal tonnage of other forest products when present expansion plans are completed.

Not all this tonnage will move via water, of course, but volume last year exceeded 200,000 tons.

Port Arthur has one of the best equipped shipbuilding plants on the Great Lakes owned by **Port Arthur Shipbuilding Co.** Some of the largest ships on the lakes were built there and, during the war, many naval craft were constructed.

The drydock has a length of 750 ft. and a width of 78 ft. The plant produces marine engines and does a wide variety of industrial metal work and marine repairs.

J. Murray Fleming, president of **C. D. Howe & Co.**, and a top-flight Canadian engineer, believes Canadian grain for domestic or export use will continue to be moved as far as Quebec City, at least, in lake vessels. A small proportion may be loaded for export directly at the Lakehead.

The drop in freight rates (by eliminating intermediary handling of grain at lower lake ports) will improve the Lakehead position compared with Vancouver. The latter at times has an edge, due to very low ocean rates from Vancouver to the United Kingdom.

Establishment in 1955 of an oil refinery at Fort William (**Husky Oil & Refining Ltd.**, capacity 900,000 barrels) suggests a new petrochemical potential. Add a supply of natural gas to the bunker fuels presently produced at the refinery and you have a fuel-energy situation bound to encourage location of such industry.

Petrochemicals, in fact, is considered one of the most interesting prospects for the area.

Husky plans industrial asphalt production. Enlarged refinery capacity can be expected. The company bought a 70-acre harbor site, ample elbow room for future growth.

Four other oil companies have private docks at the Lakehead while four coal docks last year received 901,626 tons.

How will the Seaway affect secondary industry already established at the Lakehead? Robert E. Henderson, vice-president of **Canadian Car and Foundry Co.**, points up some of the problems his plant faces in manufacturing planes and buses.

"All raw materials, chiefly aluminum and wood (plywood), and all component parts such as springs, axles and steering gears must be imported distances of 1,000 to 2,000 miles. Both products are delivered for end use over similar distances.

"Back Our Decision"

"Can-Car is determined to remain in its Fort William location. We are confident that general development of the country, development of better and cheaper transportation including the Seaway, development of increased competition in fuels by the gas pipeline, the eventual over-crowding of existing large industrial areas, will back our decision to remain here."

The Lakehead hopes cheaper lake rates will brighten prospects for automotive and agricultural implement assembly plants.

Sir Henry Spurrier, managing director of **Leyland Motors Ltd.**, already has announced that arrangements have been completed with **A. V. Roe Canada Ltd.** whereby Can-Car, an Avro subsidiary, shortly will take over the manufacture, sales and distribution of the "Canada" truck.

Diversification of the forest products industry to include cellulose, plywoods, explosives and plastics will be encouraged.

Warehousing may be expected to expand greatly, with consequent increased haulage by truck from the Lakehead westward.

Land routes between the twin ports and the Prairie Provinces are urgently in need of replanning. They have been described in a survey as "woefully inadequate."

The road between the Lakehead and Winnipeg is designed for autos rather than for heavy trucks.

Reports persist that production of the Can-Car-Leyland truck line will be concentrated at Can-Car's Fort William plant.

Now a component of the **Hawker Siddeley** industrial complex of the United Kingdom, Can-Car conceivably could be an assembly centre for automobiles made by the Hawker group for distribution in Western Canada, and for other British products.

A reservoir of mechanical skills, developed in aircraft, shipbuilding and engineering plants at the Lakehead during the war, would be available.

With Seaway completion in sight, Port Arthur and Port William are taking a hard look at their harbors and industrial areas. They want to be ready for development.

A harbor committee was appointed by the Fort William City Council to study port assets and problems and make recommendations.

Under way in both centres are industrial land assembly plans. Proposed are plans to service certain areas and establish prices on municipal lands that will be fair alike to municipal taxpayers and industrial prospects.

Values have increased in recent years and waterfront acreage has been sold at between $500 and $1,000 an acre.

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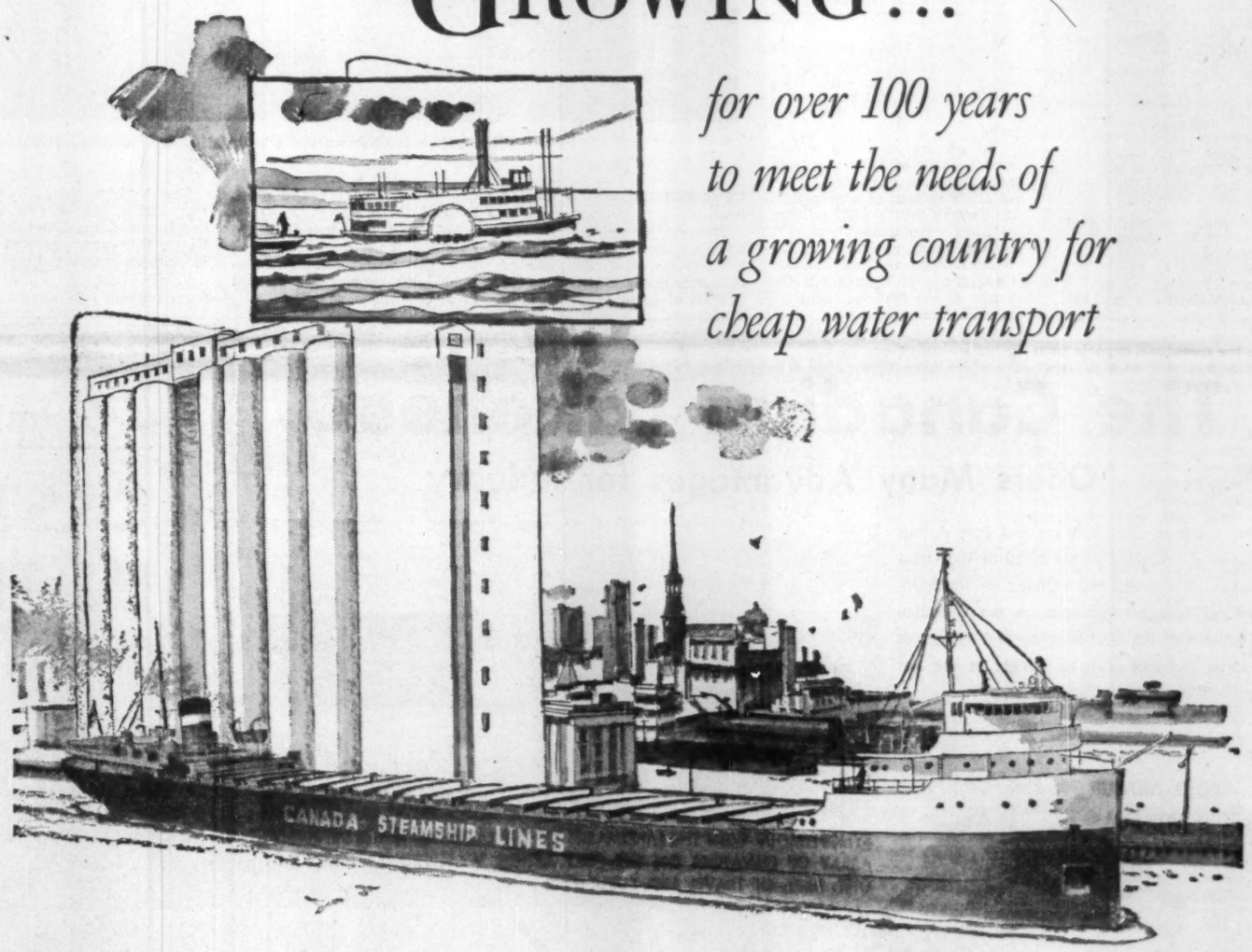

for over 100 years to meet the needs of a growing country for cheap water transport

Cheap water transport is more important to Canada than to most countries. A population scattered over vast distances makes it almost essential. The great inland waterway makes it possible. The freighters on the lakes provide it. Season after season, through good years and bad, they serve grain growers and steel-makers, shippers, manufacturers and consumers, east and west.

Fifty-seven of these ships are owned and operated by Canada Steamship Lines. Indeed the modern development of Canada's essential lake services is largely a CSL story. The present great fleet began over 100 years ago with one little steamer hauling a barge. It has steadily expanded to meet the increasing needs of industry for cheap water transport.

Today it is made up of bulk freighters, package freighters, self-unloading colliers, etc. Among them are six huge bulk carriers, added to the fleet since the war. Most modern ships of their type in the world, they can between them transport in one operating season, *160,000,000* bushels of grain, or *6,000,000* tons of ore!

Such great ships as these — *built, owned, officered and manned by Canadians* — are among the essential elements in continuing Canadian development.

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Chemicals Shipping Sets Sarnia Pace

Sarnia's chemical industry is setting the pace as the bustling Lake Huron port of 40,000 foresees the need for expanded shipping facilities in the seaway era.

It's already Ontario's second ranking port in seaway export trade and is a good bet to hold its position.

Biggest recent development is **Imperial Oil's** decision to build a giant petrochemical plant beside its Sarnia refinery—a $25 million project spreading over 50 acres.

Significance of this move lies in its strong inducement to a wide range of other chemical industry to locate here. The new plant will recover hydrocarbon raw materials, establishing a big supply of basic chemicals.

On the strength of Imperial's move, Sarnia can look for new chemical industries within the next few years.

It has also brought closer the time when the city's manufacturing production for export will justify expansion of the existing port.

The city, which mushroomed industrially during and after the war, has built up a sizeable shipping business. With ships, both lake and ocean-going, calling throughout the season, outgoing shipments from the surrounding area have been attracted.

When the seaway is a reality, it's possible Sarnia will become an important trans-shipment port as well. With two railways serving it, Sarnia has a five-day advantage over Chicago, Duluth and other upper lake ports.

Direct Benefit

But direct benefit from the seaway development as such will likely depend on the size of foreign markets.

The feeling is that it may be several years before the city benefits to any substantial degree from the seaway. Greater industrial expansion is needed, more industries requiring water transport either to bring in raw materials or ship out finished products.

At the moment the small ocean-going ships appear to be adequately handling the export shipments of the **Polymer Corp., Dow Chemical** and **Cabot Carbon**—the city's three chief exporters.

The advisability of chartering larger vessels remains a point to be proved.

Key to the situation is future industrial growth, observers believe. That's why the new Imperial Oil plan carries added importance.

In the meantime, exports from Sarnia maintain a high level. Included among export products are synthetic rubbers, glycol, carbon black, and other chemicals. Last year, there were also exports of canned fruit, hard maple deals, coal, crushed stone, steel and moulding sand.

Depending on the foreign markets developed, such chemical products as caustic soda, ethylene glycol and carbon tetrachloride may join the export trade.

Improved foreign markets, rather than larger ocean-going ships, will push the city's export trade in chemicals.

An increase in shipping would require expansion of the dockage and warehouse capacity.

Here's what is being done and considered:

- The warehouse on the existing government dock is being enlarged by 6,000 sq. ft. Total length of this dock is 1,400 ft., with depth alongside of 23 ft.
- Three pier 'fingers' extending south into Sarnia Bay from the present government dock have been recommended by the city's harbor advisory committee. Also recommended is a 1,700 ft. dock improvement in the north slip or winter harbor.

Dock Area

Existing dockage can accommodate 31 ships of the 350-ft. class at the same time. Over-all dock area is more than 11,000 ft.

In addition to the government dock there are facilities owned by Imperial Oil, **Canada Steamship Lines, Sarnia Elevator, Dominion Salt, United Towing & Salvage, Belton Lumber, Chesapeake & Ohio, Mueller Brass,** Polymer, Dow Chemical, **Sun Oil** and **Canadian Oil.**

Last year, 20,217 ships passed under the Blue Water International Bridge, an increase of more than 33% over 1954. An estimated 1,930 ships called at Sarnia during the season. The Imperial Oil docks accounted for 848 of these, with the government dock, Canadian Oil, CSL and Sarnia Elevator docks each taking 100 or more of the total traffic.

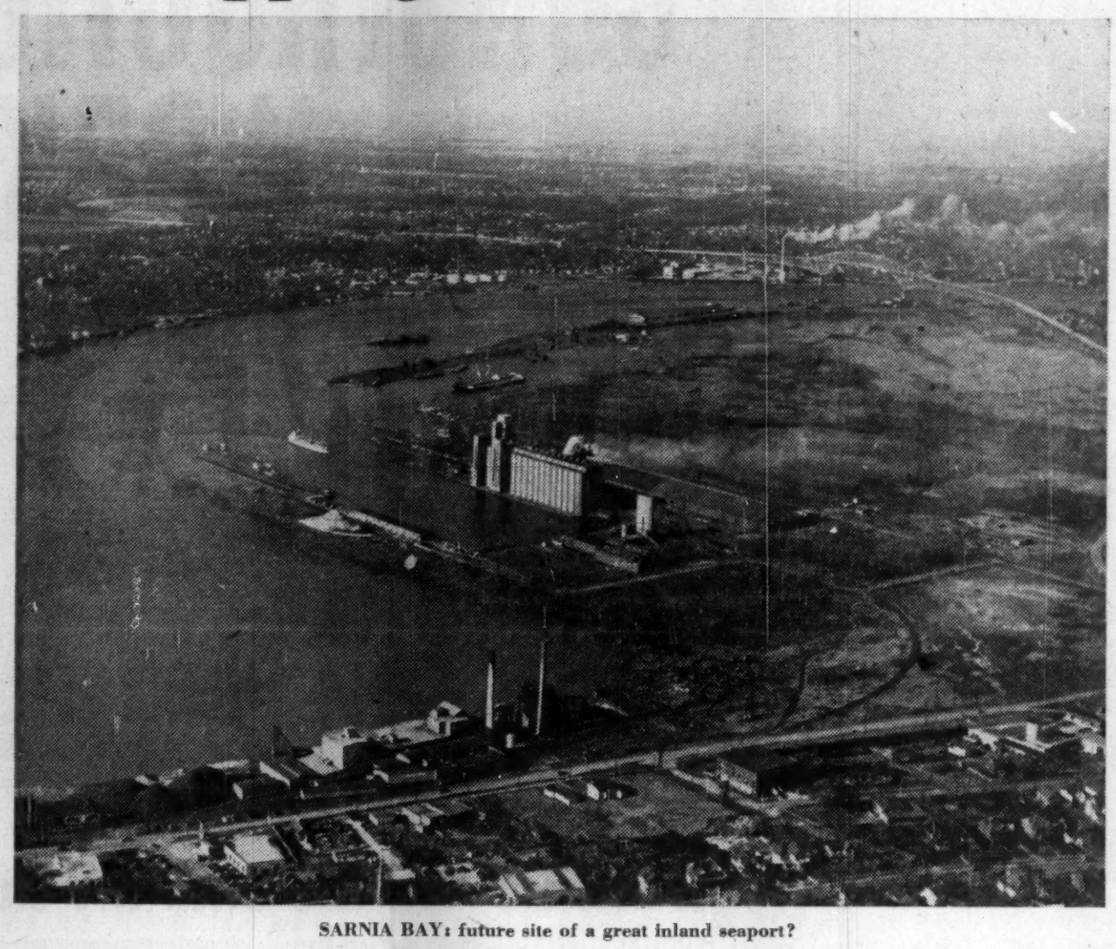
As a comparison, this ship traffic into Sarnia was greater in ship numbers than either Toronto or Vancouver.

At the government dock, 162 U. K. and European ships called as compared with 12 U. S. and 10 Canadian, for a total of 184, an increase of 15% over the previous year. The figure is up from 66 in 1951.

This traffic involved trade with such overseas countries as the U. K., the Scandinavian countries, Australia, Holland, Germany, Belgium, France and Italy.

Foreign exports were 34,579 tons, a 24% increase over 1954. Foreign imports amounted to more than 90,000 tons, up 35.8% in a year.

Because of the use of Sarnia harbor which has grown substantially over the years, there is little or no waterfront property available for additional docking facilities. There is, however, several thousand feet of Indian reserve river frontage within the city. It's foreseen that this property will be completely turned over to industry's use. This is by far the choicest industrial land within the city. But there are many good sites just south of the boundary on the south side and the **CNR** holds land in the village of Point Edward near the CSL dock.



SARNIA BAY: future site of a great inland seaport?

The Sarnia chamber of commerce has maintained a direct and continuing interest in the development of Sarnia harbor and the waterfront area. A committee on harbor development has been functioning for the past six years.

Up to the end of 1953, the government had authorized a 300-ft. extension to its dock in steel sheet piling, a 100-ft. extension to the warehouse, paving of 300 ft. near the warehouse, dredging of elevator slip to 23-ft. depth and improvement in loading facilities.

Up to 1954, more than $400,000 had been appropriated by the government for improvements and additions.

Recent work has included:

—A loading platform was built on the harbor side of the warehouse.

—Dredging and two steel pile cellular dolphins were completed at the dock's west end in 1955.

Sarnia's story since the war has been one of startling growth and industrial expansion.

Oil has been the starting point of this growth, with chemicals coming in to start a chain reaction which helped bring in more industry. Imperial Oil helped attract Polymer which needed petroleum products and Polymer in turn drew Dow Chemical and Cabot Carbon. This chain reaction has been a feature of Sarnia's success story.

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Possibility of deep sea harbour.

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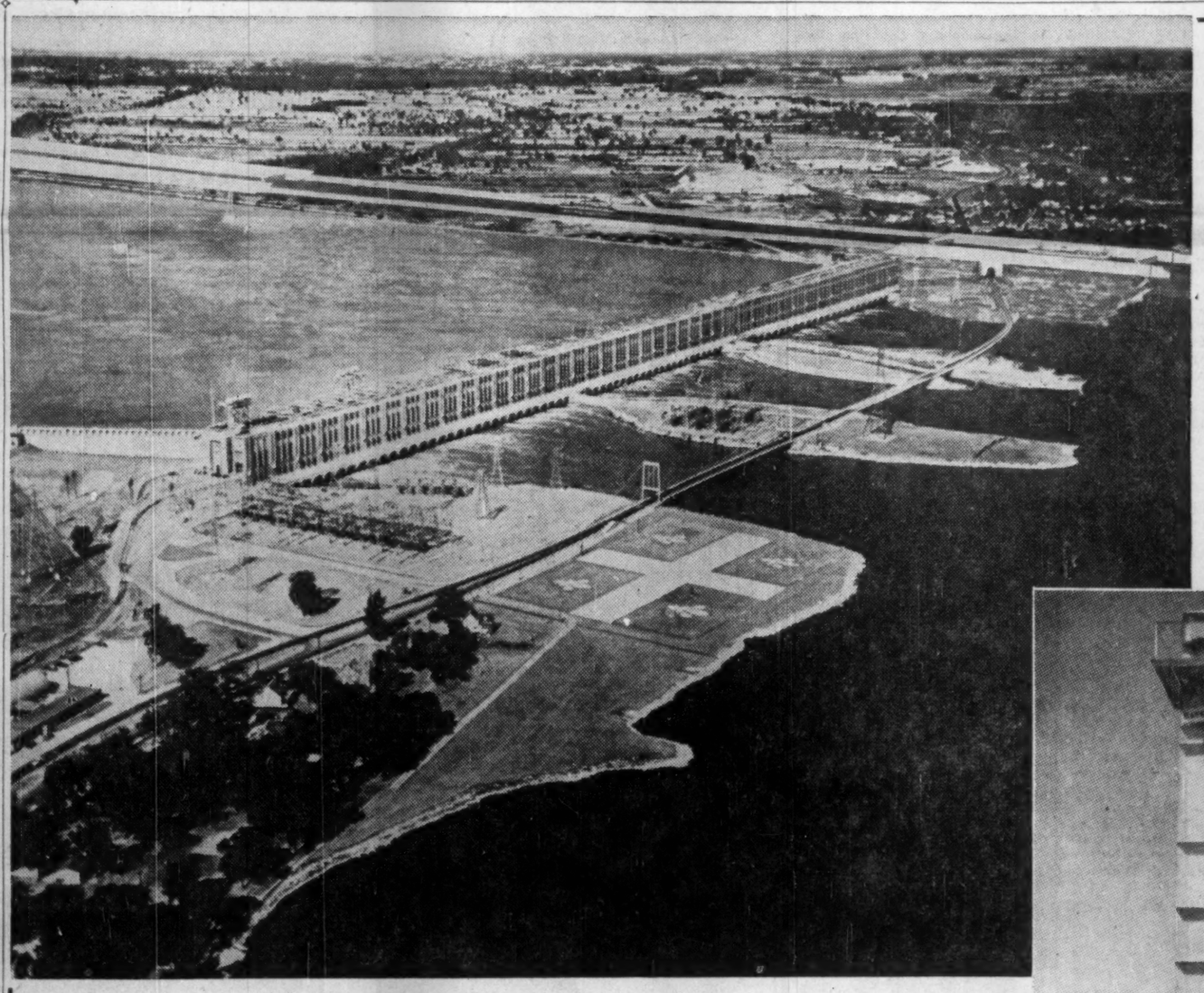
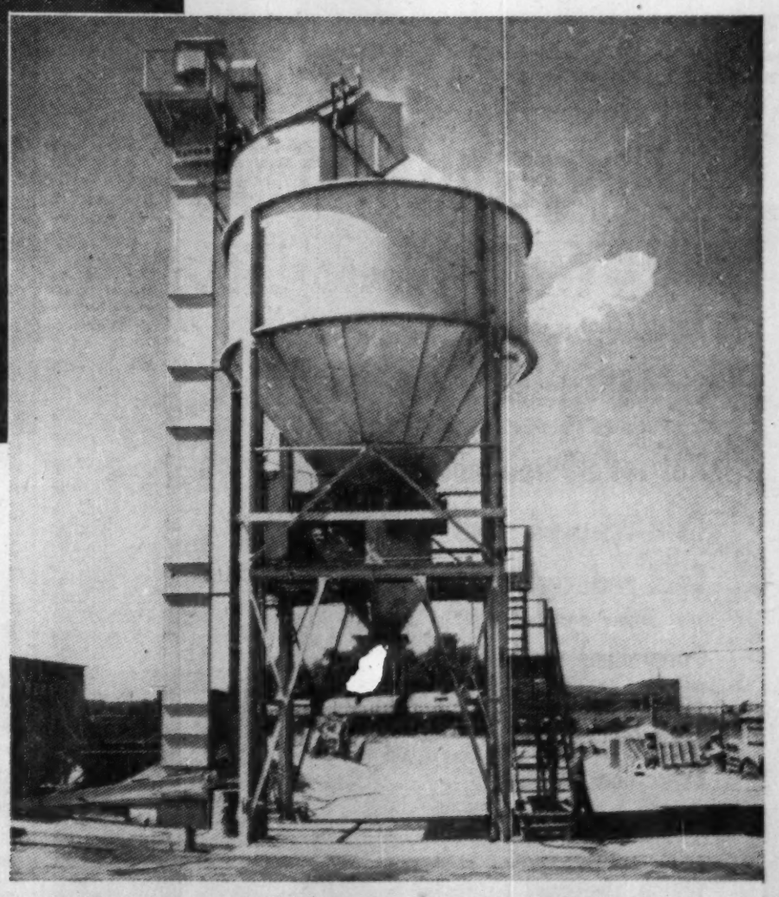
J. F. Williams, Industrial Commissioner,
2001 Eglinton Ave. East, Scarborough, Ont.



"Photo montage" illustrating, when completed at Beauharnois, the upper and lower locks and approaches for navigation, highway tunnel under the latter lock for road circulation together with Hydro-Quebec's new giant power plant development



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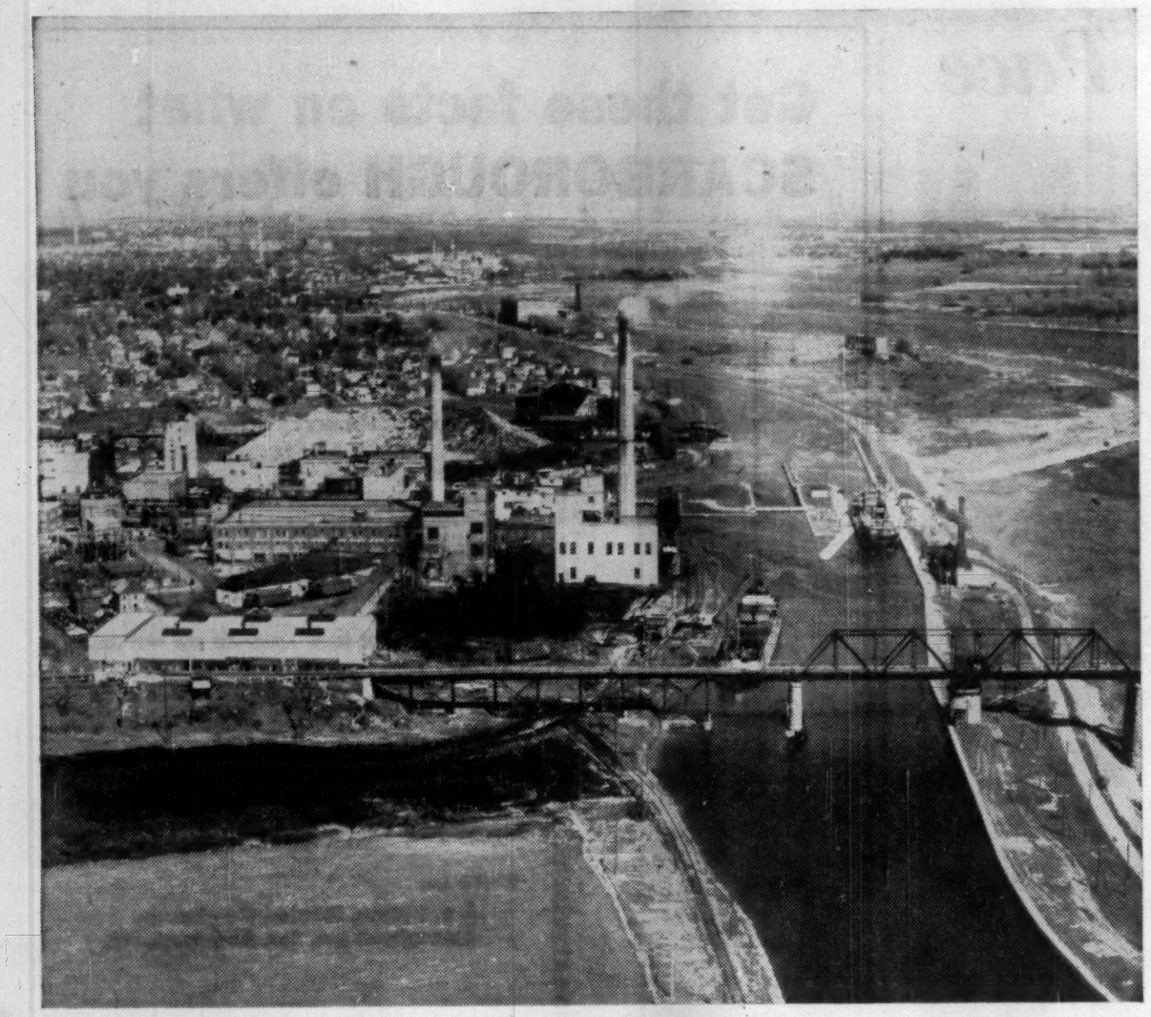

CORNWALL'S harbor stretches along the existing canal.

At Heart of Mighty Project, Cornwall Said 'Seaway City'

By W. G. COVENTRY
Industrial Commissioner
City of Cornwall

The 17,000 people of Cornwall —it will be 42,000 next year after township annexation—see two major benefits to the city on completion of the seaway and power projects.

- They're looking for industrial growth and greater use of the city's public and privately owned shipping facilities.
- Tourism, already a factor as interest mounts in the Seaway, is expected to boom when parks are created around Hydro's artificial lake.

Cornwall, located at the lower end of the Long Sault rapids, feels that it is strategically situated to receive maximum benefits from the seaway development. The **Ontario Hydro** dam which will eventually produce 2.2 million h.p. is being built on the rapids.

With an eye to greater industrial activity, the city has these plans under study:

- The purchase or expropriation of 200-300 acres which would form an industrial area where new industry could buy or lease sites at reasonable rates. Water and sewage would be installed. In the relocation of parts of railways and roads, plans are being studied which would give industries top advantage in transportation facilities.
- The city's active and progressive planning commission has made provision for a considerable length of waterfront on the city's east side for heavy industrial development, with docks and warehouses on the shoreline.

Cornwall is undisturbed physically by the building of the dam on the rapids for the production of over 2.2 million h.p. of electricity. Four miles to the west houses and stores are being demolished or removed to make way for the great artificial lake which will come from the damming of the St. Lawrence River.

Founded in 1784 by United Empire Loyalists on the north bank of the St. Lawrence, it was incorporated as a town in 1834 and as a city in 1945. Until December 31, 1956, the size of the City of Cornwall remains identical to that of the City of London, England, 1 square mile. In 1957, through the annexation of 29 sq. miles of land that is now part of the township of Cornwall, the size of the city will jump overnight to 30 sq. miles and the population will rise from some 17,000 to some 42,000 people.

The division between city and township responsibilities has handicapped Cornwall in its development during the postwar years. Industry moving in has had to deal with officials of both city and township, for although the township supplied the land, it was the city that supplied such essential services as water, fire and police protection.

Annexation has been accepted by the people of both the city and township as the inevitable tribute to be paid to progress. A new spirit is arising in greater Cornwall, a feeling of unity in this community which has so much to offer to new industry. People, industry and labor are all determined that every advantage must be taken of benefits which will result from the great international undertaking of the St. Lawrence seaway and power development. An industrial commissioner has been appointed whose task it is to bring new industry into this area.

Ideal Location

Cornwall is ideally located for industry: Seventy-five miles west of Montreal on the province's most traveled highway, No. 2, the city lies 26 miles within the Ontario border and only 270 miles from Toronto. The nation's capital, Ottawa, is 75 miles to the northwest. The area is serviced by both the **Canadian National** and **Canadian Pacific** railroads. The **New York Central** crosses the St. Lawrence over the Roosevelt International Bridge which enters Canada within the city limits. The NYC then goes on to Ottawa. Thus for export traffic Cornwall is strategically situated, adjacent to Montreal, convenient to Saint John, N.B., and Halifax, N.S., Canada's major ports on the Atlantic seaboard; it is equally accessible for exporting via New York.

Cornwall provides a most satisfactory freight service for its industries. This is accomplished

(Continued on page 55)

WILLIAM G. COVENTRY has been industrial commissioner for Cornwall, Ont., since May of this year. This is a newly-created position. Mr. Coventry was born in England in 1903 and was educated at the RMC at Sandhurst. He served as an officer in the British and Indian armies.

He came to Canada in 1928 after resigning because of health. He has lived in Canada and the U. S. since that time. Mr. Coventry was a radio news editor and foreign news commentator in Seattle with the CBS station there for some time.

During the last war, he was with the British Ministry of Production in Washington, D.C. In 1947, he was appointed U.K. trade commissioner in Winnipeg where he remained for 8½ years before coming to Cornwall to take his present post.

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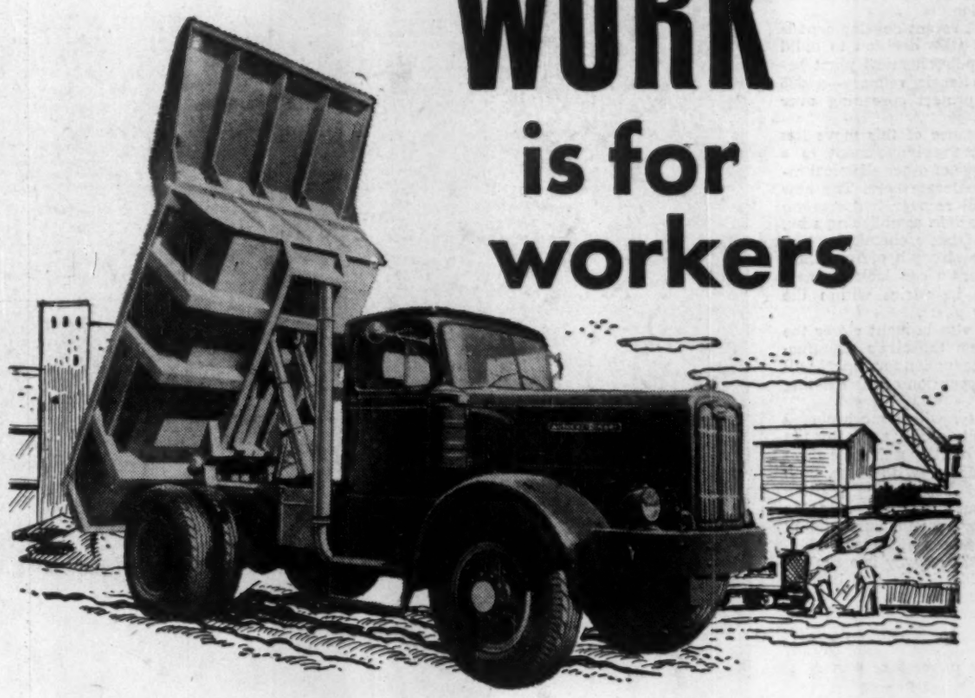

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Upper Left: Jacques Cartier Bridge Pier Enlargement prior to raising of Bridge over Seaway Canal. (Lachine Section—St. Lawrence Seaway Auth.)

Left: Construction of Earth-filled Dykes at Cornwall, Ontario — for the Hydro-Electric Power Commission of Ontario in connection with the Power Development at Cornwall being carried out in conjunction with the Seaway.

Upper right: Stage 1 Excavation for the Beauharnois Locks, Beauharnois, Que., being executed by Atlas-Winston Limited, which company is comprised of Winston Bros. Co. of Minneapolis, Minn., U.S.A. and Atlas Construction Co. Limited.

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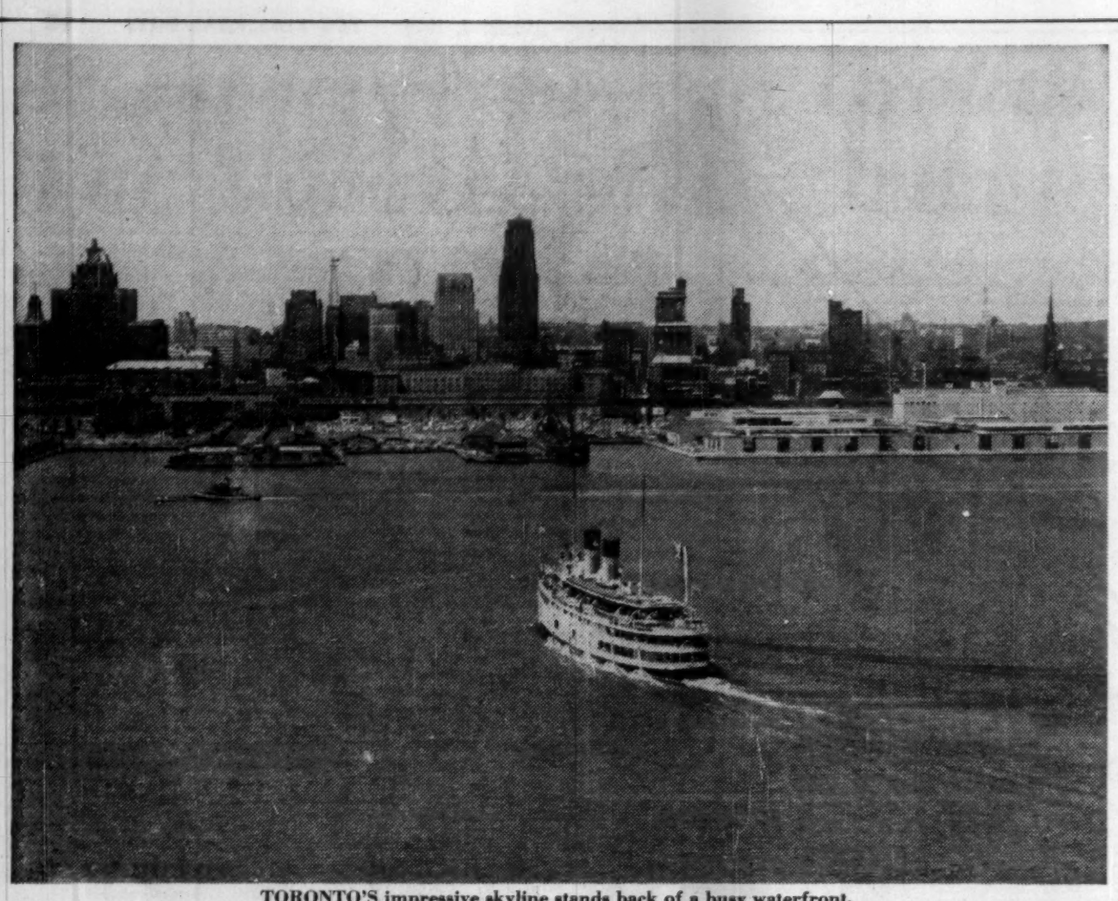


TORONTO'S impressive skyline stands back of a busy waterfront.

Toronto's Foresight Pays Off, Had Seaway Plan 40 Years Ago

By E. B. GRIFFITH
General Manager and Secretary
Toronto Harbor Commissioners

The port of Toronto sees the Seaway marking the biggest growth period in its history. And these are among the reasons:

- It is the main port for a metropolitan market of around 1.5 million people with a well-developed and prosperous hinterland.
- It has ample accommodation for all classes of shipping.
- Early planning for the Seaway will save it millions of dollars in providing sufficient depth for the big ocean-going vessels.

The outstanding feature of the early planning and development of the port of Toronto was the optimism shown by both the administration and its officers. Although the St. Lawrence Seaway had been discussed for many years and its ultimate approval remained in a state of doubt for many years to come, they had faith that it would one day become a reality.

This faith was substantiated by the construction of all piers for possible dredging to 30 ft. without endangering the construction of the foundations. This holds true for 95% of the dockage and will save the port millions of dollars in reconstruction and new construction work that has to be faced by some of the port authorities on the Great Lakes.

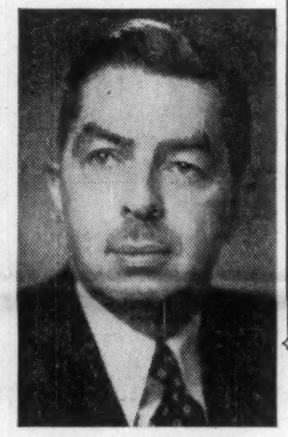
The waterborne trade of the port has by reason of the harbour improvements and the ever-expanding market increased rapidly and continuously year after year. It has advanced from a total of 248,363 tons in 1921 to 4,493,927 tons in 1955, an increase of over nineteen fold in 35 years.

Only five vessels and a number of tramps of foreign registry were engaged in the through trade from the Continent to the Great Lakes area in the year 1936. Those five ships of the liner type making regular calls, have increased to over 120 this year and are owned or chartered by 21 shipping lines. They fly flags of France, Germany, Great Britain, Sweden, Norway, Holland and of course, that of Panama.

Last year there were 792 entrances and clearances of overseas registered ships, an increase of 90 over the previous year. They brought imports directly to the Toronto area by water from 67 ports in 16 countries while exports from the area went to 42 ports in 18 countries.

Scarcity of Canallers

The repeated increase in the number of lines engaged in this trade accelerated upon the announcement that the Seaway was to be an actual fact, even if Canada was to build it alone. The desire of the various lines to become established early in the race for new business was evident. As a result of the increased demand for vessels suitable for the canal draft, the charter price increased sharply and actually brought about a scarcity of this type of vessel for tramp sailings.



ERNEST B. GRIFFITH, 39-year-old general manager of Toronto Harbor Commissioners, joined the organization as executive assistant 16 years ago. A native of Toronto and a B.Com. graduate of the University of Toronto, he became secretary to the commissioners at the end of the war when he returned after service with the Canadian Army. Five years later, he was appointed to his present post.

He is a member of the Bar of the Province of Ontario, and a Canadian director of the American Association of Port Authorities.

The situation has become so acute that scrap metal dealers in the Toronto area with large tonnages of their product for export have been unable to secure bottoms and have been forced to ship by rail to Montreal where numerous tramps of the larger tonnage capacity are able to handle the cargo. This, of course, adds to the cost of the metal dealers and they are among those most anxiously awaiting the day that the Seaway opens.

This new type of business has actually been accompanied by numerous growing pains. Chief among these was the problem of handling ocean freight through lake freight terminals.

The building of the new marine terminal No. 11 at the foot of Yonge St., designed specifically for overseas vessels, eliminated two major problems. Wide dockside aprons of 35 feet together with a flush front on the building itself made the speedy loading and unloading of ships a possibility.

A customs problem was overcome by the construction of an examination room on the premises to which goods could be moved instead of having them trucked uptown to the customs' warehouse.

This is reputed to be the first installation of this kind in a marine terminal in Canada.

Handling Speed-Up

There are a great many examples of the accelerated movement of cargo. Many shipments of glass, tomato paste, wearing apparel and hardware have been cleared and moved from the warehouse on the same day of discharge from the vessel.

One of the stevedoring companies operating in the terminal recently stated that truckers are beginning to transport goods from the terminal the same day they are removed from the vessel. In many cases the entire cargo discharged has been delivered within two days after the vessel has sailed.

The central portion of the harbour was set aside for package freight terminals. Because of the Seaway, the facilities have been and are still being increased to provide space for additional business. Marine freight terminal No. 11 was the first step in this program. The second was the completion of a new 26-acre dock site situated between Jarvis St. and Parliament St. on the waterfront.

Some five city blocks in length, the dock was created by dump fill, upon instruction of the Commissioners. Much of the fill came from downtown construction projects including the rapid transit tunnel.

The retaining wall, 8,300 lineal feet in length has just been completed by the Federal Government at a cost of almost $1½ million. The dredging, also

(Continued on page 57)

Call Cornwall 'Seaway City'

(Continued from page 54)

through electric switch locomotives of Cornwall Street Railway which gives efficient inter-switch service to and from any of the three railroads and the steamship docks, as well as interplant movement. Thus industries are directly connected with every transportation outlet in Cornwall.

At the present time all shipping moving from Montreal into the Great Lakes passes within a stone's throw of the centre of the city, up the Cornwall canal. Built over 100 years ago this canal was widened and deepened before the turn of the century and provides transportation for river vessels and small ocean going freighters with a maximum draft of 14 ft. The maximum length is 250 ft. and the beam is 43 ft.

Navigation Season

A large number of shipping companies operate through the canal system during the navigation season which starts around April 1, and ends at the beginning of December. Within the city, government docking facilities are provided by a dock on the north bank of the canal, 1,170 ft. long, and on the south bank of the canal, 280 ft. long. One industry, two oil companies and one coal company have their own docks. These docking facilities mean that a considerable quantity of goods borne by water freight enter Cornwall.

Cornwall has never been developed as a great port owing to its proximity to Montreal and to the fact that vessels in excess of a 14 ft. draft cannot at present proceed upstream farther than Montreal. Nevertheless several industries have located in Cornwall because of their ability to bring raw materials by water.

Howard Smith Paper Mills, which came to Cornwall before the turn of the century, has doubled its volume of production every 14 years. **Courtaulds (Canada) Ltd.,** established here nearly 30 years ago, has increased its volume of production by well over 1,000%. **Canadian Industries Limited,** one of the more recent newcomers is now doubling the size of its present factory.

Industry which has settled in Cornwall has continued to prosper. **Canadian Cottons Ltd.,** said to be one of the industries to be hardest hit by the advent of synthetics, is today employing more people in Cornwall than ever before in its history.

The St. Lawrence in its winding course has been kind to the city, for to the east there is a natural deep water channel running almost to the banks of the river. It is in this large natural basin that ocean vessels will be able to anchor and take their turn at the wharves to discharge their cargoes and load on local produce. It is quite probable even before the St. Lawrence Seaway is officially opened that ocean vessels far larger than have ever been seen before in this part of the river will be unloading their cargoes on what today is still farm land. A 27-ft. channel is being dredged today to connect this natural basin with the main river.

Ocean-going vessels will be able to load their cargoes for foreign ports right in the heart of Cornwall, a fact that should prove an incentive to new industry.

Employs 3,700

At present, there are some 3,700 people employed on the Canadian side of the St. Lawrence seaway & power development. Most of them come from within 35 miles of Cornwall. Employment will reach its peak about August of this year when it is anticipated that over 4,500 people will be at work on the project. It is estimated that the peak employment will carry on for 12 to 18 months and as the project nears its completion in the summer of 1958 there will be a gradual layoff. From then on the number of employed will decrease until the project is completed when no more than normal maintenance staff will be required.

Within two years Cornwall will have available 3,000 skilled and unskilled workers looking for permanent jobs locally.

With the possibility of there being this large number of unemployed, labor leaders are joining the people and organizations in the community in giving their full support for an all-out effort to bring new industry into this locality.

Not only does Cornwall stand to benefit from being on the deep water channel but within two years Ontario Hydro will have 1.1 million h.p. of electricity available from its new plant within the city limits.

There's a firm conviction in every local mind that this area is bound to become a great tourist centre, possibly even to rival Niagara Falls. Upstream from the dam which is being built to and from the waterfall necessary for the hydro development will be created an artificial lake some 35 miles long and 3½ miles wide. The Province of Ontario has already appointed a commission to make certain that this artificial lake and its bordering shores are made into a great parkway.

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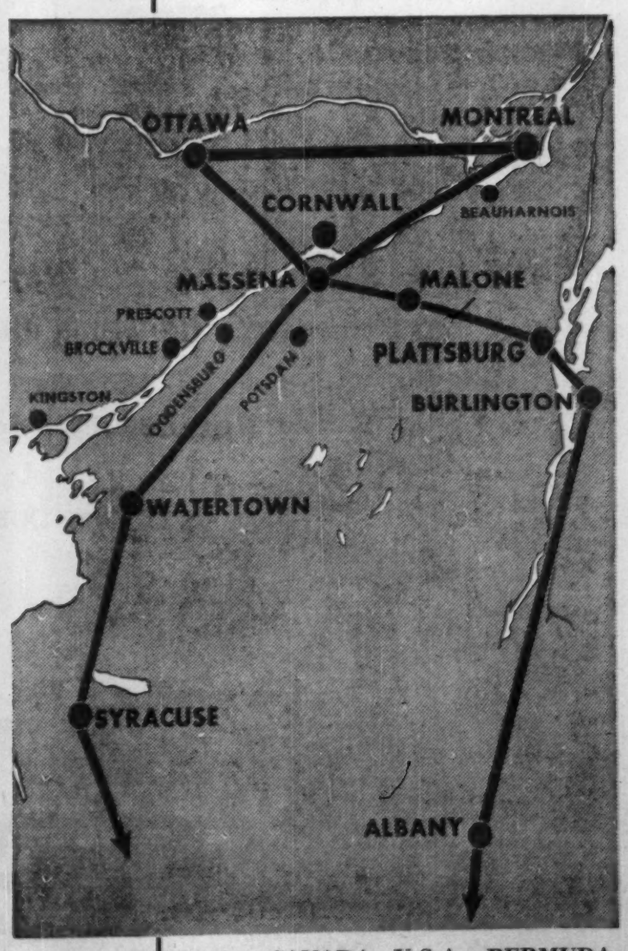

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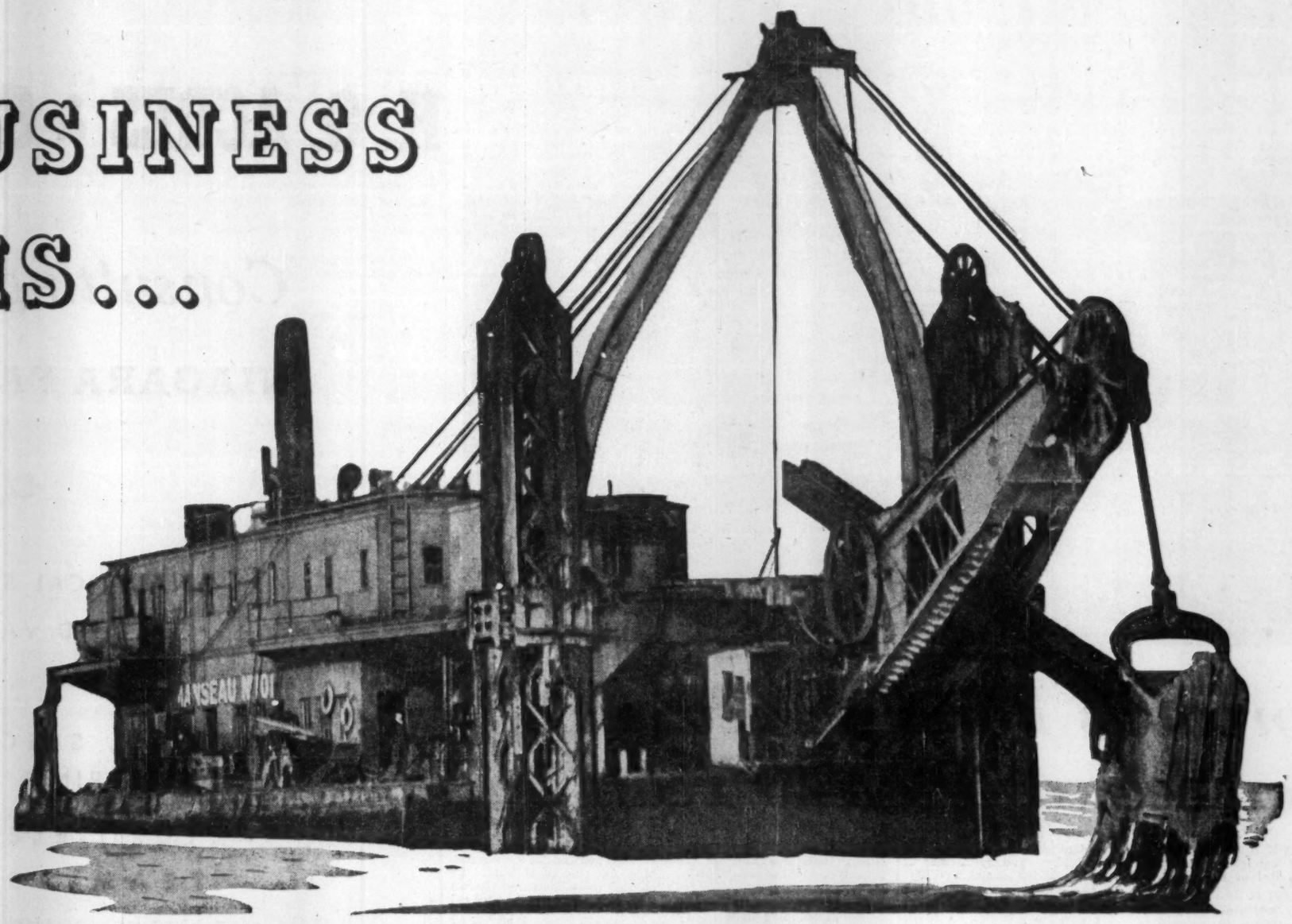

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Brockville Plans Port Growth With Hopes For More Industry

By F. J. E. ROGERS
Executive Secretary, Brockville Chamber of Commerce

The tourists may still come and go but scenic Brockville is looking for a swing toward more industrial growth with the seaway and power developments.

Industrial activity has been stepping up considerably in this town of 15,000 in recent months.

Here's what the community is doing to stimulate growth:

- Giving consideration to two proposed docking sites on the St. Lawrence.
- Planning a survey to determine area use of port facilities.
- Taking advantage of public interest in seaway to give a fillip to the town's tourist trade.

The council of this Leeds county town have in hand plans and sketches on two possible docking sites.

In plan No. 1, the site would cover an area about half a sq. mi. and would involve three piers jutting 600 ft. into the St. Lawrence, east of Brockville Island park. Each pier would be 150 ft. wide and they would be set 215 ft. apart. The nearest would be 200 ft. off the neck of land connecting the island to the mainland. Each pier would accommodate two freighters, one on each side. Construction would be off railway facilities and coal terminals lining the shore off Water Street.

Termed the more logical, plan No. 2 calls for three piers of the same dimensions situated west of the blockhouse. The most easterly would be 260 ft. off the end of the existing pier extending westward. As yet, there are no estimates of the amount of dredging which would be required to accommodate larger vessels at the piers.

The Federal Government has assured the town aid in financing will be provided when need is admitted for the docking projects.

In the offing is a survey of the shipping facilities of the area surrounding Brockville. Idea is to determine if smaller nearby communities would ship through the Brockville port.

The town has arranged to have itself declared a port and a port authority has already been established.

On the industrial front, **Du Pont of Canada** has just announced a large expansion at its nearby Maitland plant. It's expected that a large orlon plant will take its place beside the existing facilities for the production of the bases for nylon and freon.

Another firm, **Parke-Davis**, recently opened its new plant inside the town limits. **Automatic Electric**, which has separated from **Phillips Electric**, has built its own plant. Phillips is expanding too with a large new building going up.

The John B. Stetson plant recently announced it would build an addition to existing facilities.

Brockville Industrial Commissioner Graeme Gorrie states that the number of enquiries from interested industry has increased substantially in recent months. Advent of the seaway and power development is given credit for the increase in interest.

The existing facilities for shipping at Brockville consist of privately owned docks. The **CPR** wharf is the largest and in recent years has not been extensively used. At the moment, warehousing is extremely limited.

Before foreign trade was curtailed, the port of Brockville was used extensively for foreign shipping. Wire, cable and canned milk were shipped from here.

However, the tourist industry remains one of the biggest considerations for Brockville.

Long a tourist centre, Brockville's trade in visitors is booming as public interest grows in the seaway and power projects. Organized bus tours are becoming common and merchants are enjoying the benefit of the activity.

To take advantage of this public interest, the chamber of commerce organized a tour of its own for local retailers. Idea here was to keep the merchants well informed so that they and their staffs could be effective information officers in answering public questions about the seaway.

Located about halfway between Montreal and Toronto on the north bank of the river, Brockville is the gateway to the Thousand Islands and the Rideau Lakes districts—both famed as tourist attractions and summer playgrounds.

The big question is:

Will the Seaway transform the scenic community into one bustling with industrial and shipping activity. Certainly, some movement in that direction has already been noted and there will likely be a continuation of the trend.

The outlook is that the seaway and power development will produce an industrial growth pattern, with a new emphasis on industry in relation to tourism.

Within the past few years, these projects have been undertaken:

—A $5 million addition to the Ontario Hospital was carried out providing for 600 more beds.

—The town took over new land area to accommodate some 700 homes and industrial expansion.

—Projects totaling more than $1.4 million were undertaken by the town including an extension to the general hospital, a large memorial centre and public schools.

In past years, Brockville has traditionally been a producer of copper wire, telephone assembly, ladies' and men's hats, condensed milk, starch products, medicines, school desks, hammers, heavy tools, marine engines, fishing baits and grinding wheels.

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Location Aids Windsor Bid As Port, Distribution Hub

(Continued from page 52)

sion and capital expenditure in the last few years have amounted to over $225 million.

Commerce Centre

Many comparatively low-priced, serviced industrial sites are available and there is a plentiful supply of skilled labor.

Windsor prides itself on having the most competitive freight service in Canada and long has been the centre of Canadian-U. S. commerce. Last year, 17,862,439 persons traveled in both directions between Windsor and Detroit.

A recent report by Commander Bert Robb of the United States Navy (retired) pointed to a lack of realization by Detroit authorities of the opportunities presented by the Seaway. Robb added that Windsor's aggressive and enlightened self-interest could supply the oceangoing port needs of the Detroit Metropolitan region.

With six rail lines serving Windsor and a two-way rail tunnel to Detroit, the city is well placed for rail haulage of goods. Virtually all parts of the docks have a railway line near at hand and there is a rail ferry available when needed.

Considerable highway transport facilities are also available. Windsor is well served by air lines, with a direct run to Mexico being recently introduced. A new million-dollar terminal is being constructed at Windsor airport and $750,000 will be spent on extending runways.

Any consideration of Windsor as a distribution centre must take into account the city's long experience in customs and intercountry trading. The focal point of U. S.-Canadian trade, Windsor businessmen have a close and clear understanding of the necessities and requirements of trade across the border.

Through the overseas trading of Windsor's industries, which annually send products to over 90 different countries, the city is fully aware of the techniques and problems of foreign trade.

According to official estimates for 1956, Windsor is fifth in Canada in volume ($47.3 million) of capital investment for new industrial construction and equipment.

Windsor's population growth has been steady. Present population of Greater Windsor is 188,614—a growth of 31,000 in the last four years. A conservative estimate of the population in 1961 is 221,000.

Once a one-business town, industry is steadily diversifying. Now over 44% of employment is non-automotive.

No longer has Windsor an economy which booms or busts according to the demand for cars. The health of the automotive industry remains of paramount importance but the diversification of industry should tend to stabilize the Windsor consumer market.

Most Windsor businesses are small—some 450 employ 500 persons or less. Companies represented, apart from the automotive factories of **Chrysler, Ford** and **General Motors**, include a wide range of pharmaceutical firms and other producers of nationally advertised products.

Backing the city are the fertile and productive counties of Essex and Kent. The farms of these counties have a higher per-capita production than any other area in Canada.

Cattle represent a $29 million industry and keep Windsor's meatpacking plants busy. A major canning industry thrives on the long growing season.

In Essex, Kent and Lambton counties, 98% of Ontario's tobacco is produced. Large exports go to the United Kingdom.

Thus Windsor and its hinterland present a balanced economic picture. The groundwork has now been laid for enormous expansion. The Seaway could signal its beginning.

MURRAY A. ELDER, 30, industrial commissioner for the Windsor Chamber of Commerce, has been in industrial promotion work for six years, working formerly in Montreal and Owen Sound. A big job for Elder: Zoning and planning for expansion of Windsor - area plants, working in co-operation with adjacent townships. Elder is a member of the National Industrial Zoning Committee and of the American Industrial Development Council.

Toronto Foresight Pays Off, Began Planning 40 Years Ago

(Continued from page 55)

authorized by the Government, has also been completed.

The complete project will be turned over to the Commissioners for harbor use. It will probably be used in the development of further transit terminals for large ocean vessels.

Ready for Developments

The Planning and Engineering Departments have, for some time, been making studies of the various developments that are most feasible for this pier and the terminal plans are to the point where tenders can be called for actual construction immediately the growth in shipping indicates additional space is required. This additional space will probably be the next step in the expansion work. After that comes dredging to provide the required draft for the larger vessels, and that will, of necessity, be completed before the Seaway opens.

Another development will probably evolve from consolidation of certain heavy industries brought about by transportation, economic and industrial changes. For instance, the coal and oil industries are at present in a fluctuating state that may eventually lead to the utilization of some of this dock property for other purposes.

Trade Development

A two-way trade is necessary to maintain a nation in world markets and this holds equally true in the shipping business. Indications to date are that the import shipments are increasing substantially, but the export trade is lagging somewhat behind.

With this in mind, early this year, the Commissioners established a Trade Development Department to encourage the movement of merchandise, both inward and outward, through the port.

One other phase of the port business that should develop as a result of the Seaway is transshipment of cargo. On the larger vessels, the costs per day run as high as $2,000 to $3,000. For this type of ship to sail further up the lakes with but a small tonnage would be uneconomic.

The answer is transshipment of this tonnage whether to lake carrier, rail, or truck. Growth of this business may occur, as it has previously in Montreal.

The Seaway period could be the most beneficial period of all to the harbor.

Ship Moves Every Half-Hour In Greatest Inland Seaport

Today, Montreal is the largest inland port in the world, a centre where east meets west, where golden grain from the rolling prairies mingles with spice from the Orient, where mighty ocean liners and tramp freighters pass on the mighty river.

Ship Every 25 Minutes

On a busy day, a ship arrives or departs on an average of every 25 minutes. Some 200,000 passengers land or embark a year. The annual net tonnage of vessels using the harbor is around 9 million tons, of which some 5 million tons are accounted for by 1,700 ocean-going vessels. The greatest annual quantity of imports handled at the harbor was almost eight million tons. Maximum export volume reached 6.8 million. Domestic cargo is about 7 million tons annually.

Some 60 ocean-shipping companies operate regular services between Montreal and the major ports of the world.

It's a far cry from the early days of 1800 when shallow waters in the river above Lake St. Peter, which had a depth of 10½ ft. at low water, and the powerful St. Mary's current, made shipping progress slow and hazardous.

Less than 150 years ago, it took a ship three days to sail from Quebec to Montreal. It is on record that 42 oxen were needed to tow a ship up St. Mary's.

Today, going from the upper end of the harbor near the entrance to the Lachine Canal, to the wharves, serving the great oil refineries of Montreal east—approximately 10 miles — one can usually see 40 to 50 vessels at berth, sometimes more.

Two-thirds of these ships will be ocean liners, tramps, and tankers, the others coastal and inland vessels. The ocean ships carry the flags of many nations and can be seen unloading rich cargo.

Tea, rubber and jute from India and Pakistan; granite, wine, olives from Italy, Spain and Portugal; vegetable oils, mahogany logs from Africa; raw sugar and molasses from the West Indies; manganese and chrome ore from West Africa; coal from Cape Breton; steel manufactures from Norway and Sweden; dairy products from Denmark; canned fruits, raisins and wines from Australia and New Zealand; manufactured products of Belgium, France, Germany, Holland.

There are other vessels which can be seen loading return cargoes of Canadian grain; flour and foodstuffs; automobiles and machinery; railway locomotives and rolling stock; rails and scrap metal; copper, nickel and aluminum ingots of manufactured products.

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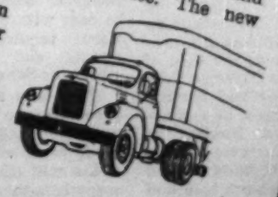

MONTREAL'S great port area: Lachine canal at right, liner docks at left.

Montreal's Fears Long Gone, Will Thrive on Seaway Trade

By GEORGE S. MOONEY
Director,
St. Lawrence Municipal Bureau

There was a time when Montrealers feared that the construction of the Seaway would adversely affect the Port of Montreal and retard the growth and development of the surrounding region. It was an understandable fear, but like most fears, without any solid justification.

Facts and figures based on study and analysis of shipping economics and origination and destination movements of overseas and domestic cargoes moving in and out of the Port of Montreal, coupled with careful appraisals of shipping patterns and growth trends within the Canadian economy and their probable impact on inland and ocean transportation, have effectively dispelled these earlier misgivings.

Today, there is a buoyant optimism and confidence that, rather than being harmful, the Seaway will benefit and enhance economic activity within the region as well as consolidate and prosper Montreal's traditional role and status as Canada's chief Atlantic seaport and transportation centre.

Montrealers, who are closer to the actual Seaway construction than any other Canadian community—they are watching it take shape on their very doorstep—regard it as a powerful asset destined to play a major role in the future growth and development of the Port of Montreal and in the further expansion of large-scale industrial activity in the region.

This expectation is more than wishful thinking. There are sound reasons why Montrealers these days look to the future with confidence.

Recent authoritative estimates forecast that within the next 25 years the population of Greater Montreal (30-mile radius) which is now around the two million mark, will increase to approximately four million and that the regional share of the gross national product, which is now running at approximately $6 billion annually will, by 1980, be of the order of $8 billion to $10 billion. The Seaway will be a potent factor in bringing this about, but there will be other factors no less important.

Underlying these forecasts of regional growth and development is the general premise that dynamic growth and expansion will characterize the over-all Canadian economy during the period ahead and that the Montreal area, because of the natural wealth of its surrounding hinterland containing vast reserves of undeveloped hydro - electric power, forest and mineral resources, as well as its strategic location transportation-wise to overseas, continental and domestic markets, is in a preferred position to attract a major share of the industrial expansion likely to take place.

On these solid premises, it is reasonable to believe that the Montreal region will experience substantial industrial growth and development during the next quarter of a century and that the Port of Montreal will benefit from a corresponding increase in shipping activity. The promise of the future is already in the making.

In anticipation of the Seaway opening, an extensive program of port modernization and expansion is now under way.

Two new wharves, one 1,500 ft. long and the other 1,600 ft. are presently under construction. These wharves will provide unloading berths for the large lakers which will be discharging their grain cargoes at Montreal in the future.

Hitherto, there has been no grain unloading berth at which the large lakers could be accommodated. In addition to the new unloading berths, loading equipment is being improved and enlarged so that the turn-around time of the lakers will be kept to a minimum.

New transit sheds and improvements on the grain conveyor galleries will complete the first stage of the port improvement program. The later stages, all to be completed by 1959, will assure the Port of Montreal being fully prepared to cope with the new and additional requirements of lake, coastal and ocean shipping which the Seaway will generate.

These new additions and improvements to the Port of Montreal, will add lustre to its already excellent standing as one of the most efficient and modern seaports in the world. Its present facilities include a total of over 53,000 linear ft. or 10 miles of wharves, piers and jetties which provide berths for 112 vessels of deep ocean draft.

Thirty-two of the berths are equipped with transit sheds providing in all more than 2.3 million sq. ft. of usable floor area. Cargoes moved to and from vessels in the Port are handled by trucking and by the 62-mile terminal railway which provides connection between points of interchange with the C.N. and C.P. Railways and nearly all berths within the harbor.

Some idea of the railway activity that goes on during the port season can be gleaned from the fact that the Harbor Railway has switched to and from berths as many as 233,000 cars in a year and as many as 1,550 in a single day. The daily record is equivalent to a train of cars almost 13 miles long.

While all types of cargo and commodity shipments move through the Port of Montreal, grain is by far the largest. Montreal's position as world leader in the shipment of grain was established in the middle 1920s. This position has never been relinquished and is likely to be considerably enhanced as a consequence of the Seaway.

In the three-year period 1953-1955, grain accounted for 65% of the total tonnage of cargoes shipped from Montreal to overseas markets, flour 8% and grain products 2%; a total of 75% of the outward bound movements. Other bulk commodities and general cargo accounted for the balance.

By contrast, and indicative of the growing importance of Montreal as a great oil refining and petroleum products centre, is the mounting volume of crude petroleum and petroleum products being handled in the port.

In the period 1953-1955, petroleum and its products accounted for 40% of all commodity shipments received in the port with coal accounting for 9%, sugar 8%, cement 6% and iron and steel 4%. General cargo and a lengthy list of diversified commodities accounted for the balance.

In recent years approximately 1,700 ocean going vessels pick up and discharge cargo annually in the Port of Montreal. Foreign cargoes loaded and unloaded in the port average 8.9 million tons annually with outward bound cargoes accounting for 4.8 million tons and inward cargoes 4.1 million tons.

In the shipping seasons of 1954

(Continued on page 59)

GEORGE S. MOONEY was, prior to 1938, Director of the Department of Planning and Research of the Montreal Metropolitan Commission. In 1938, he was appointed Industrial Commissioner and Co-Director of the City of Montreal's Industrial and Economic Development Bureau. During the same period, he was actively associated with the Canadian Federation of Mayors and Municipalities, serving the organization as economic consultant and director.

With the outbreak of war, in 1939, Mr. Mooney was co-opted by the Federal Government to relate himself to a series of war jobs. In 1942, he was appointed Chief Executive Officer of the Administrative Council of UNRRA. Upon his return to Montreal, he resumed his pre-war activities with the City of Montreal and the Canadian Federation of Mayors and Municipalities. In addition, he was recently appointed Director of Montreal's St. Lawrence Seaway Bureau, a special body created by the City to co-ordinate and consolidate Montreal's interests in the Seaway and related developments.

Crushers at work on St. Lawrence Seaway Relocation job

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Like a giant magnet, the St. Lawrence valley draws men and machines to combine on one of the most important phases of the Project—relocation of whole communities. Here two crushing plants are producing crushed material for highway base and asphalt manufacturing for the relocation of Highway No. 2 for 7 miles between Cornwall and Moulinette. Allan G. Cook Limited, Barrie, Ont. is the crushing contractor, the Cedarapids crushers were purchased from Innes Equipment Limited, Leaside, Ont. and financed through C.A.C. Mr. Cook finds "C.A.C.'s flexible financing arrangements have helped me to get needed equipment on the job fast, and pay for itself while it works".

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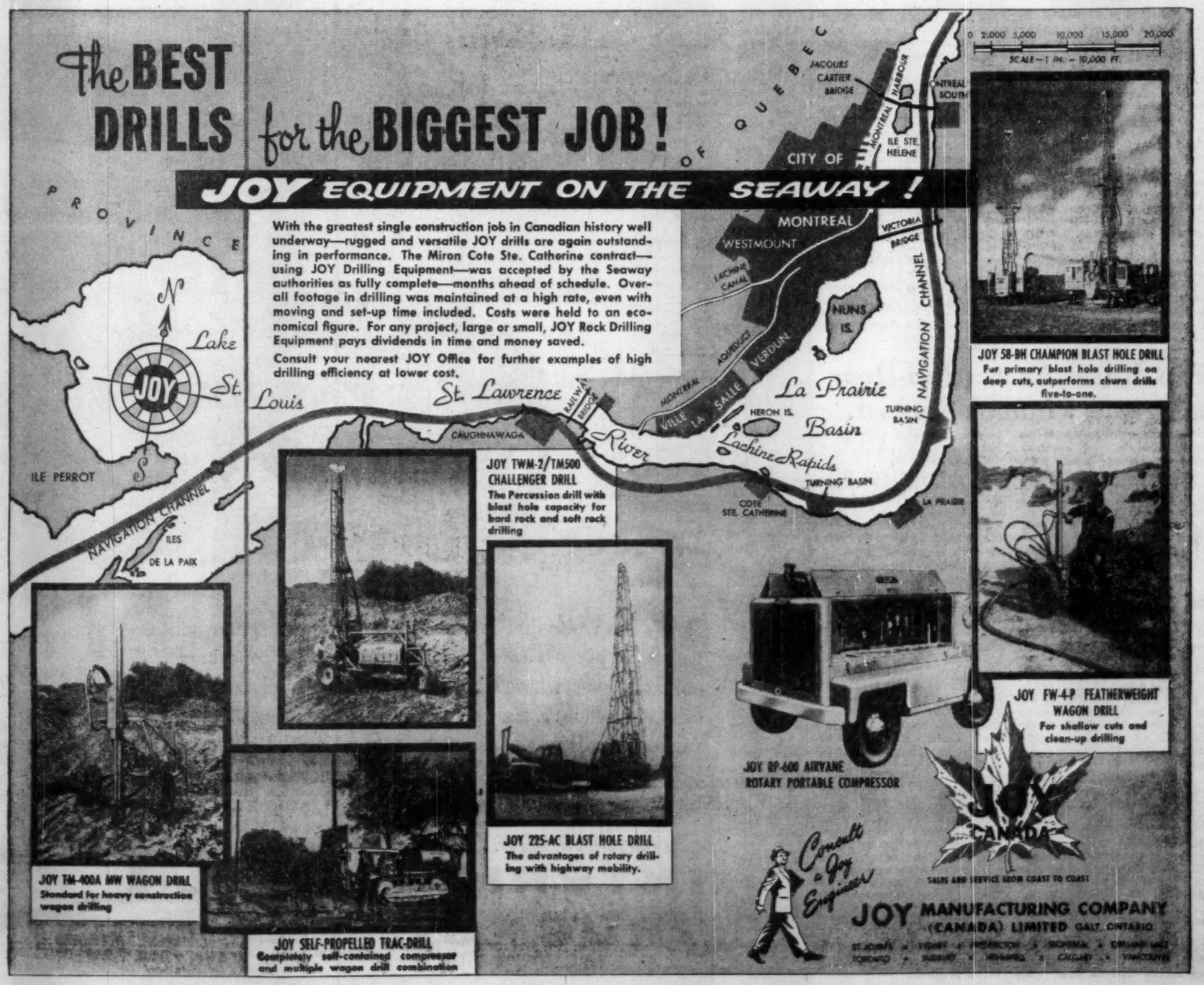

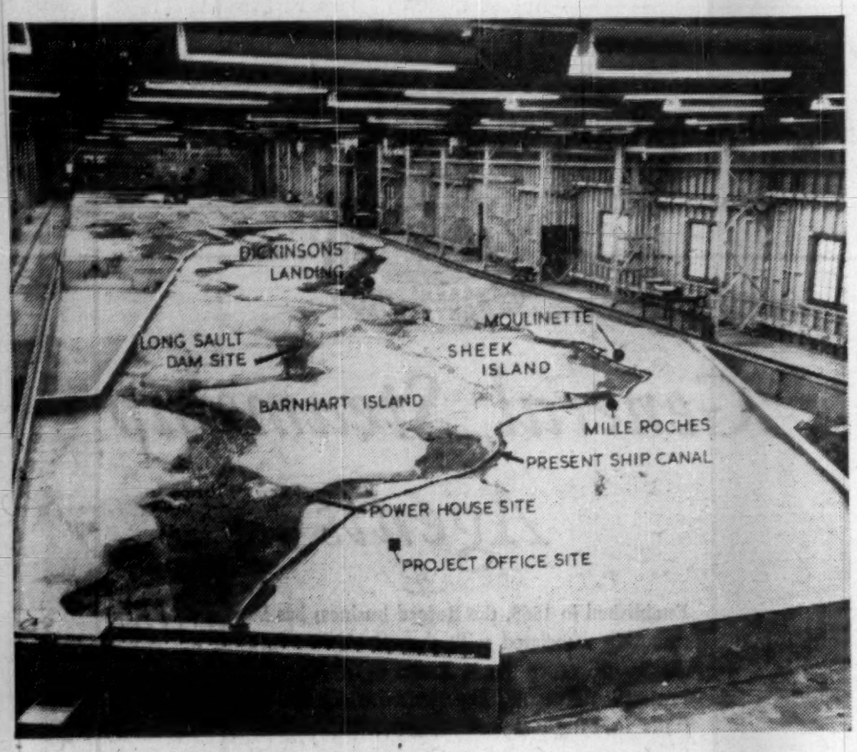

ONTARIO HYDRO'S giant model of the St. Lawrence measures flow problems.

Little 'Seaway' Saves Constructors Millions

Accurate, small-scale models of the St. Lawrence Seaway power project are saving millions of dollars in construction costs.

At the A. W. Manby Service Centre at Islington, near Toronto, eight models of sections of the project have been under test at one time or another during recent months.

The models also accurately reproduce the International Rapids section of the St. Lawrence and actual river conditions. Built from data obtained from Ontario Hydro and other surveys, the models have permitted engineers to test methods of building the power project before construction began; to determine the best type of construction of the principal structures and the manner in which they were to be built.

Contractors associated with the project have been able to study Hydro's hydraulic models in order to determine the exact sites of the various structures, topography of the surrounding terrain, the best means of access to the sites and the velocities of the St. Lawrence River with which the contractor would have to contend.

There are three topographical models of the St. Lawrence River, each representing a section of the river. The first represents the river between Ogdensburg and Leishman's Point, being used in tests relating to channel enlargements and determining performance for power and navigation purposes. Another function of this model has been to determine the best location, as well as the alignment and associated excavations for the Iroquois dam, which will control the outflow from Lake Ontario.

The second model represents the Ogden Island area (from Iroquois to below Morrisburg) and has been used in tests associated with the design of channel enlargements and determining their performance for power and navigation.

The third model reproduces the area from Cat Island to a point below the powerhouses, being used in designing channel excavations and determining cofferdam requirements during dewatering and construction of the powerhouses and the Long Sault dam.

Combined, the three models reproduce about 35½ miles of the St. Lawrence River, with one mile on the St. Lawrence equal to about 10½ ft. on the models.

Scale Relationships

The actual scale relationships are as follows: horizontal 1 ft. to 500 ft.; vertical, 1 ft. to 100 ft.; rate of flow, 1 to 500,000 cu. ft. per sec.; velocity, 1 to 10 ft. per sec. and time, 1 hour to 50 hours. The vertical scale of the models is exaggerated in comparison with the horizontal scale so that the effect of vertical variations in contour—which are much smaller than the horizontal distances—will not be lost. This also assures a more accurate representation of the river levels.

The fact that the reproduction is in three sections would appear to be something of a handicap in that the whole development cannot be studied as one unit. However, in addition to the fact that the length of the present building housing the models would have to be tripled to house a single model of the entire development area, there are distinct advantages to the three-section reproduction.

The single-unit model would hinder detailed study of the specific work areas, while the three-section plan allows study on each section simultaneously without interference from the work being done on either one of the other sections.

Model construction, of course, is done with the precision of lens-grinding. Precision was evident, not only in the marking of contours, sawing of the templates, surfacing, insertion of some 20,000 metal strips to reproduce roughness in the river bed, but also in the precautions taken to prevent foundation settlement and heaving due to frost.

Structure Models

To study particular problems arising out of tests conducted on the three topographical models mentioned above, Commission engineers have built five models of individual structures involved in the project.

These structures are reproduced in enlarged form compared to their counterparts in the topographical models in order to permit more detailed study of each structure than would be possible in the overall models.

Unlike the topographical models which, as indicated above, are distorted on the vertical scale as compared with the horizontal scale, these latter models are built to exact proportions.

The first structure model, built to a scale of 1 ft. to 36 ft., both horizontally and vertically, reproduces the powerhouse ice chutes. Tests on this model have been used in the design of the ice chute profile and types of gates required, as well as to determine performance characteristics.

Long Sault Dam

The second is a model of the Long Sault dam and vicinity, built on a scale of 1 to 80, and has been used to determine performance and rating of diversion sluices, tunnel ports, final sluiceways and energy dissipating works. This model has also been studied to determine necessary channel excavations for efficient functioning of the elements mentioned in the previous sentence.

A plexiglas-sided testing flume, 20 ft. long, has been constructed to determine hydraulic design details of components of both the Long Sault and Iroquois dams and to develop and determine performance of energy dissipating works for both structures, as well as to measure hydraulic loads on various gate types and designs.

Massena Intake Works

Another structure replica, constructed on a scale of 1 to 60, is a model of the Massena intake works and vicinity, being used to determine the alignment of structure and design of submerged ports and energy dissipating works.

Another function of this model is to determine the performance of the ports and their ratings, in addition to measuring hydraulic loadings on the service and emergency gates.

Recently completed is a scale model, 1 to 36, of the powerhouse water passages, built to measure the hydraulic loadings on the headgates and to determine the optimum location for piezometer openings in connection with turbine flow measurement.

Model No. 8 depicts the Iroquois dam and vicinity, on a scale of 1 to 80, to determine hydraulic conditions and performance at various stages of construction. It will be used to obtain calibration of the dam and to study operation of the 32 gates.

A ninth model, constructed on a scale of 1 to 80 vertically and 1 to 160 horizontally, will, when completed, be used in studies relating to the St. Lawrence powerhouse tailrace excavation.

Through the use of the St. Lawrence models, it is already indicated that savings will be obtained on the St. Lawrence power development in excess of those achieved on the Niagara project. Thus, it may be safely stated that hydraulic model studies have truly become a valuable engineering tool.

Montreal Buoyant on Future

(Continued from page 58)

and 1955, there was a marked decline in the outward movement of overseas shipments due in part to a lessened demand in world markets for Canadian wheat and in part to a falling off in the general export trade.

Fluctuations of this sort are not abnormal and already there is strong indication that the 1956 shipping season from the Port of Montreal will exceed the consistently high volume of earlier record years.

As a token of things to come, large tracts of farm land are being bought for future industrial and residential developments, particularly on the South Shore facing the Island of Montreal.

As a consequence, land values have soared from initial sales as farm land of $600 to $700 an acre to as much as $2,000 to $3,000 an acre for resale as industrial, commercial or residential development.

One of the factors underlying the sharp increase in land values on the South Shore is that the 16-mile line between Contrecoeur and Laprairie offers interesting possibilities for the future extension of the Port of Montreal.

Waterfront sites on the present harbor front are getting scarcer and within the relatively near future will be completely taken up. When this happens, the South Shore will provide a natural site for new harbor developments, an eventuality which may come sooner than many imagine.

In anticipation that this will happen, a number of large industries have purchased sites on the South Shore for future expansion purposes and other industries not dependent on marine transportation are already planning or have under construction new or expanded plant facilities in this area.

During the past two years, 17 large industries have spent in excess of $110 million in new plant construction (excluding land and machinery costs) while new residential and commercial projects aggregated an additional $50 million. Employment created by these new industries will be in the neighborhood of 5,000 workers.

It is facts like these that have changed the thinking of the Montreal community with respect to the Seaway and its impact on the Port of Montreal and the regional economy.

Montrealers are no longer afraid of its consequences. Their main worries these days are the traffic problems across the St. Lawrence which the Seaway and the expanding growth and development of the South Shore will create for the Greater Montreal Region.

These Pundits Put Bets on Toronto

Who will score most from the increase in overseas trade expected west of Montreal once the Seaway opens?

According to a report prepared after extensive studies by two University of Toronto assistant professors of geography, Toronto will get the most of it.

The two professors, Donald Kerr and Jacob Spelt, spent several months studying the situation and interviewing more than 100 authorities. And in an abstract of their report, these are the conclusions at which they arrived:

— Port facilities are well developed in Toronto. Ships can enter the harbor easily and the bay provides an adequate turning basin. A modern marine terminal which includes customs service is a recent development. Towards the east, because of long term planning, large tracts of land have been reserved for expansion. Physical features will not impose any limitations on the development of the Port.

— At an early date, Toronto emerged as the main trading centre in Southern Ontario. More than any other city, Toronto has, at the present time, the facilities for further expansion of the overseas trade. It has by far the largest concentration of wholesalers and distributors, shipping agents, importers and exporters, customs brokers and bankers. Metropolitan Toronto constitutes a large and rich market and from it, highways and railways fan out to all parts of the Province.

— In the long run, it will be to the advantage of the economy of Southern Ontario that only one port specializes in the overseas trade. In this way unnecessary and costly duplication can be eliminated. Transportation rates could be lowered. In increasing numbers, ships would be able to make Toronto their Ontario terminal, thereby saving additional shipping costs by not having to sail further up the Great Lakes. Railway and trucking companies would be able to lower rates by being assured of a steady and larger volume of goods.

— Direct overseas trade at the port of Toronto is a recent development. It has increased steadily and in 1954, Toronto handled 60% of the total direct overseas trade at Ontario ports. The trade undoubtedly will increase after the completion of the Seaway, but, because of certain limiting factors, the change will be gradual.

— The position of Toronto with respect to other Ontario ports is analogous to that of Montreal with respect to Toronto. Toronto will continue to outstrip other Ontario ports in the overseas trade. Furthermore, overseas vessels prefer to call at only a few major ports and for this reason, among others, more and more of the overseas trade will concentrate at Toronto. Toronto will emerge as one of the very few collection and distribution centres for the overseas trade of the Great Lakes.

DONALD KERR

JACOB SPELT

Hamilton's Place

The report states that Hamilton has little chance of catching up with Toronto as a port. And other cities will get only a minimum of foreign business.

Toronto, say the authors, has head start over other Ontario ports and will hold it and likely increase it.

The 1954 figures for overseas trade, the latest available, show Toronto first with 123,219 tons, Sarnia second with 39,921, Hamilton third with 25,523 and Welland fourth with 11,062. Cornwall, Thorold and St. Catharines follow in that order.

The professors think that they will all stay in approximately the same order and that the percentages of foreign trade won by each port will vary only slightly.

Toronto Growth Gradual

They emphasize, however, that Toronto's movement toward major-port status will be gradual.

Most important in this is the weak export trade at Toronto, a reflection of the generally soft export position of Canada.

Imports last year outweighed exports by 77,631 to 42,608 tons. Increasing this will be one of the port's biggest problems, for shipping companies have no love for a port that forces them to return home with empty holds.

The professors feel that raw materials as an export won't yield much business. There are few in southern Ontario. Northern Ontario minerals will likely continue to be shipped through Montreal — the rail distance is about the same as to Toronto.

However, they feel that grain merchants might be persuaded to ship through Toronto after bringing their wheat there by lake carriers.

But Kerr and Spelt believe Montreal will continue as Canada's biggest shipping centre. And for these, among other reasons:

— It enjoys special import and export railway rates which will likely not be conferred on Toronto for some time.

— It will be able to serve some areas, including some Ontario areas, faster than Toronto.

— Montreal's tradition as the major overseas port will provide a solid foundation for increased trade.

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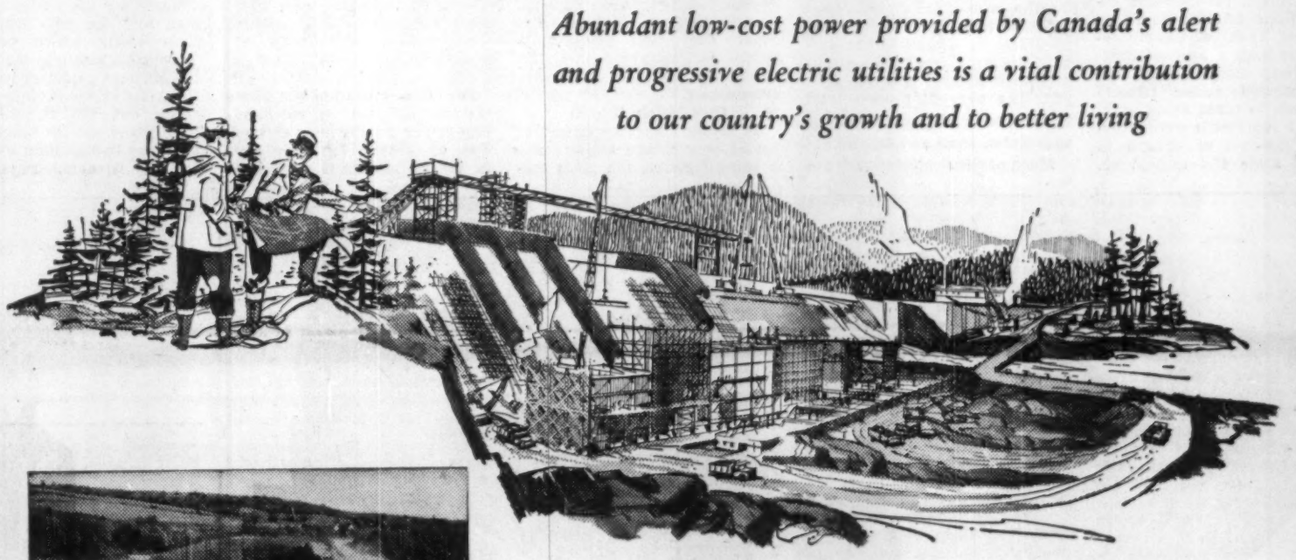

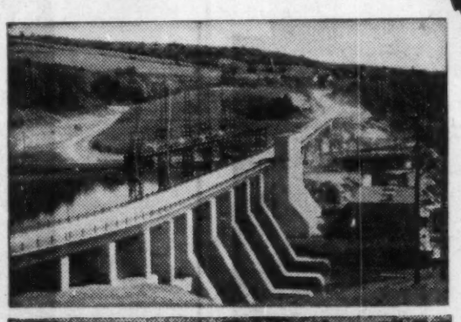

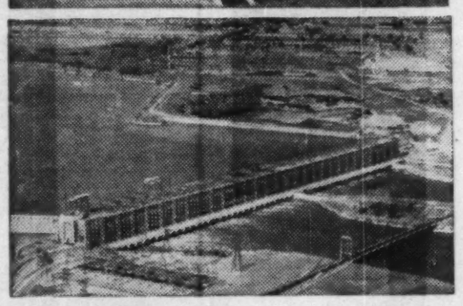

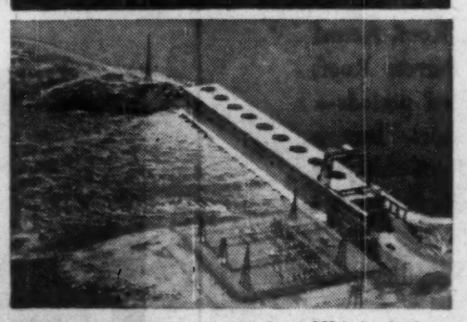

These generating stations are typical of some 350 hydro-electric plants that produce over nine-tenths of the country's electric power.

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Since 1945, the demand for electricity has almost doubled and it is expected to double again within the next ten years. Keeping pace with this ever-increasing demand reflects great credit on Canada's power companies. Their engineers have changed the age-old courses of rivers, have tunnelled through mountains, created immense reservoirs and built massive dams to harness the energy of rushing water.

Other sources of energy being used increasingly

Over 90% of Canada's output of electricity is developed by water power. In some areas however, all the usable water power resources have been put to work, or soon will be. To help meet future needs, engineers are turning their attention more and more to other sources of energy to operate steam or gas-driven turbine-generators.

The gas turbine is one of the newer methods of converting heat to electrical energy. Low-grade oil or natural gas is mixed with compressed air in a combustion chamber and the force of the resulting exhaust gases turns the turbine which drives the generator. Canadian General Electric is supplying gas turbines for a new station in British Columbia, which will be one of the largest of its kind in the world.

Canada's first atomic electric power plant being built

Canada's first atomic electric power plant being built near Chalk River, Ontario, by Canadian General Electric together with Atomic Energy of Canada and Ontario Hydro, signifies new horizons in the generation of electric power. The engineering knowledge and experience gained will be freely available to the nation's power companies.

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Seaway Sinews:

Roaring earth-shifters scour out canal beds, dam sites and channels.

Without the ingenuity, efficiency and capacity of present-day mechanical and electrical earth-moving and other equipment, the St. Lawrence Seaway and power project probably could not have been carried out in its present form.

More than 11,000 men today are at work on the international project but, without the huge and intricate machines and apparatus which loom beside them, even that size of a work force would only make a comparatively puny impression on the scheme.

Value of those machines and other equipment comes near to the $100 million mark. On the powerhouse site alone, the worth of the equipment has been put at $42 million and includes 200 bulldozers, 60 scrapers and many types of large and small cranes.

The size of the job that is being tackled from Montreal up through the lakes becomes still more impressive when one begins to tote up the total quantities of rock, earth and other materials that are being excavated for channel deepening and foundation work, and are being poured as fill for dikes. Add up the quantities of concrete and other items that will be used and the figure is staggering.

The Seaway side of the project, by itself, involves the removal of about 72.6 million tons of gravel, rock, earth, etc. — enough to load a train of modern railway hopper cars that would stretch across Canada from coast to coast about eight times. It represents excavation over a distance of around 21 miles of some 48.4 million cu. yds. of material.

It has been estimated that the concrete needed for work under St. Lawrence Seaway Authority on the whole project is about 1,770,000 tons. The concrete expected to be poured on the Ontario Hydro powerhouse site is estimated at over a million cu. yds. The over-all project total represents vast quantities of aggregates, sand and cement.

Much of the equipment for the Seaway work includes giant bucket dredges, suction dredges and ladder dredges, now operating or due to do so in Montreal Harbor, Lake St. Louis, Lake St. Francis and the Welland ship canal. They will move from shoals and reaches about 12.7 million cu. yds. of sub-surface overburden.

60-ft. High Cranes

At points along the length of the Seaway where major work is going forward, the great machines hold attention. On the Canadian side, notable examples may be seen where the Iroquois dam and lock is being built, where the 3½-mile long, 80 ft. high Cornwall dike is rising, where the Cornwall canal diversion is going forward, and, of course, on the powerhouse site.

On the powerhouse site, three massive gantry cranes for handling concrete have been erected. Two of these which have been in the U abutment area have now been moved into new locations and on to rails for concreting operations in the main sections of the powerhouse.

These are the machines, operated by nine men working in three shifts, which swing the cement buckets into place above the sections under construction. They tower 60 ft. into the air, reach out 155 ft. with their booms, and can lift up to 25 tons at a time though their maximum capacity is seldom required. Up till recently, they have been lifting concrete buckets, weighing 11 tons when full, up the rising forms of the dam face and dropping four cu. yds. of concrete in at a time.

Operating under air-activated controls, they manoeuvre quickly and smoothly. They can turn 180 degrees as well as running along the railway tracks on their own power.

They and the huge batching and mixing concrete plant nearby (described on another page) are the prominent features of the wide and valuable array of equipment on the powerhouse site where **Iroquois Constructors** holds a $22.9 million contract to build the Canadian structure.

Three miles west of Cornwall where the minor mountain of a dike is going up—it will be the retaining wall of the head pond of the new generating station—is a conglomeration of machinery also worth many millions of dollars. This is where **Atlas Construction** is carrying out a $3.5 million dollar contract.

When Atlas has completed its contract, more than three million cu. yds. of rip-rap and rock will have gone into the structure. The rock comes from the company's quarry about two miles above Mille Roches.

Construction of the dike has been speeding up over the past six weeks as a result of the better weather. On the dike more than on any other major permanent installation associated

(Continued on page 61)

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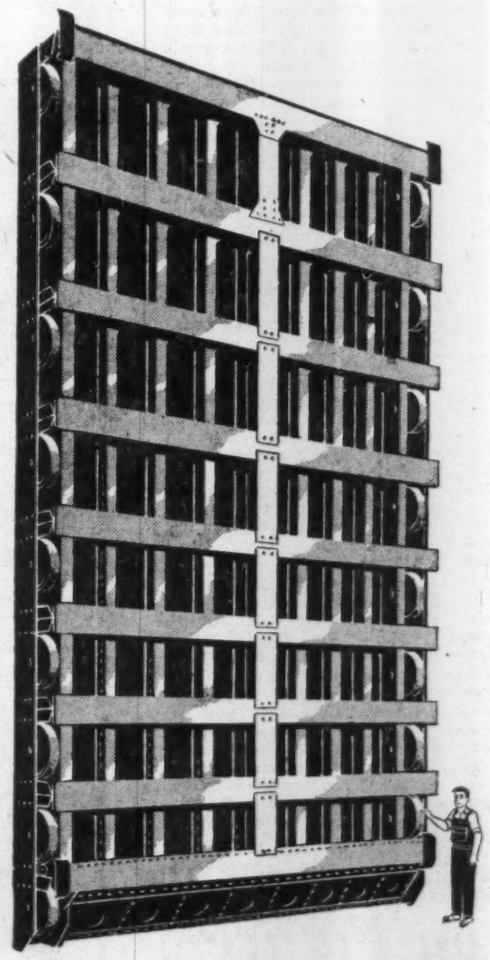

Largest Hydraulic Gate Order Ever Placed in Canada

Illustrated at left is a scale drawing of one of 48 head gates for the Canadian section of the Barnhart Island Power House—a part of the St. Lawrence power project.

These gates comprise the largest order of the kind ever placed in Canada and are now being fabricated for Ontario Hydro. With bedded parts and hoists, they are designed by Dominion Bridge for 17 ft. wide by 37 ft. high openings. Each will withstand a pressure of 3,000,000 lbs. with 93 ft. head at sill.

By its association with most of the large power projects built in Canada, Dominion Bridge has accumulated a wealth of experience, making it a leading authority in this specialized field.

Plants at: MONTREAL, OTTAWA, TORONTO, WINNIPEG, CALGARY, VANCOUVER. Assoc. Company Plants at: AMHERST, N.S.: Robb Engineering Wks., Ltd. QUEBEC: Eastern Canada Steel & Iron Wks., Ltd. SAULT STE. MARIE: Algoma Structural Steel Co. Ltd. WINNIPEG: Manitoba Bridge & Eng. Wks. Ltd. CALGARY: Riverside Iron & Eng. Wks., Ltd. EDMONTON: Standard Iron & Eng. Wks., Ltd.

DIVISIONS:
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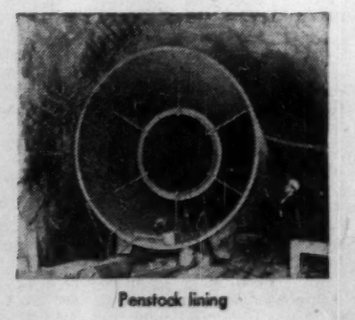
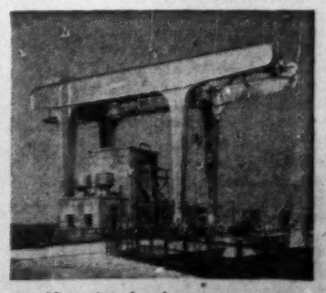
Welded scroll case



Penstock lining



60-ton headworks gantry crane

DOMINION BRIDGE COMPANY LIMITED

Men Provide the Brainpower, But Machines Lick the River

(Continued from page 60)

with the Hydro's side of the scheme, the weather affects construction progress. The dike work is on schedule.

In fair weather, about 14,000 cu. yds. of material go into the dike each day. A total of more than five million yds. of material must be handled for the three major sections being built by Atlas Construction. This includes the preparatory work, stripping to usable material for dike foundation and over borrow areas. It involves moving 1.5 million yds. of various materials and the spreading and rolling of about 3.5 million yds. of compacted earth fill on the dike sections.

Two other contractors have some part in the Cornwall dike construction. **C. A. Pitts General Contractor Ltd.**, Toronto, who is building the diversion canal, has a short dike section from old No. 2 highway south to the Cornwall diversion canal closure structure, and from there to the U abutment section of the powerhouse dam. The U abutment and wing wall sections, where the dike meets the main dam are being built by Iroquois Constructors.

Highest part of the dike will be at the powerhouse and over the present Cornwall canal where it will reach up about 80 ft. and be 490 ft. wide at the base. But for most of its 3½-mile length, from the powerhouse to the vicinity of the present village of Mille Roches, the dike will be about 37 ft. high with a 270 ft. base.

The contractor has a deadline for completion which needs top organization and high mechanization to meet. The job is scheduled for completion by the late fall next year.

Big diesel machines, directed by trained and skilful teams of operators, mechanics and servicemen, are making that possible.

Directing the operations is an Atlas veteran with 35 years in construction work, George J. Stunden. He maintains that an 18 cu. yd. diesel scraper today will do the work of 40 teams of horses, and one skilled operator with such a machine can do the work that 40 men did 25 years ago.

With these big diesel scrapers, all loading and unloading is done automatically by mechanical means. For such operations 25 years ago, 90% of the men on the job would have been laborers. Today, there are only four laborers. The others are skilled men.

Says Stunden: This is the day of the specialist. Where about 100 skilled workers are able to do this job now, it would have taken about 8,000 unskilled men then.

Efficiency of the mechanical equipment averages about 86%.

Stunden has designed several machines to ease the backs and speed the progress of the men under him. His latest went into service last month. It is a new type rock removal machine which extracts boulders over 6 in. in diameter from the dike without removing the fill.

The 16 tines on the big rake scrape the fill, pick up the boulders and deposit them on a conveyor which dumps them into a 6 cu. yd. box on the diesel-operated machine. The whole operation of rock removal is speeded up and more efficient as a result.

For the dike building operations, Atlas Construction at present is using fourteen 18-cu. yd. scrapers which handle loads weighing about 22 tons, transporting them at a speed of about 25 miles per hour. These scrapers are used to strip the waste material off the dike route and borrow areas.

Usable material in borrow areas is loosened by a "rooter" machine and over-size material is removed by machine operated rock rakes. Then scrapers go into action again and are push or pull loaded by diesel tractors. The material is deposited by scrapers on the dyke in 6-in. layers and is raked again to remove boulders.

Sheep's Foot Rollers

Finally, the fill is compacted by tractor-hauled sheep's foot rollers. These rollers have a great number of steel studs which exert a foot pressure of 600 lb. per sq. in. and compact the till after eight passes to a density of 143 lb.

Such rolling compacts the material so thoroughly that it approaches the density of concrete which is about 155 lb. per cu. ft. Constant inspection is made of each operation and compacted materials are being sampled at regular intervals by Ontario Hydro's soil inspectors under the supervision of John Adams, resident soils engineer.

The build-up in 6-in. compacted layers continues until the maximum height of the dike is reached for the various sectors.

Keeping Up Traffic Flow

Another important structure for the Seaway is the Cornwall closure structure for the Cornwall canal diversion. It will enable water traffic to proceed without interruption through the construction area during the 1957 and part of the 1958 navigation season while the big dike and the dam and the powerhouse are building. This section will need about 140,000 cu. yds. of concrete—and its construction is already well on the way.

It will consist of four wing walls and a centre main block, and will enable the dike to be built from the end of the powerhouse across the present canal up to the diversion canal, and, on the other side of the structure, north across the old No. 2 highway, linking up with the dike sections being built north and west.

At the closure structure, the dike will tie into the wing walls which have been designed to take the slope of the dike on either side.

This is a job which has incidental importance in that it would provide a key link if Canada ever decided to have its own seaway channel. It is also the point where the Cornwall dike rises to its highest point of 80 ft.

The concrete walls of the main closure structure will be approximately 125 ft. high, and the width of the opening for passage of ships will be 50 ft. It is scheduled for completion in November this year.

This is also the sector where the waterway can be sealed off at the time of flooding in the late summer of 1958 when the power side of the project is expected to come into operation. It will be done by placing steel stop logs (a form of gate) into the closure structure.

A new concrete batching and mixing plant of the latest design has been erected at the site.

This plant, which is the Johnson automatic type, will have two 4-cu. yd. mixers turning out 160 yds. (320 tons) per hour. Its mechanism is electrically interlocked so that it is virtually impossible to turn out an inferior batch of concrete.

Meet 'The Gentleman'

On the American side of the project, there is a similar story of modern mechanical and electrical marvels to tell.

Notable among these is the 650-ton walking dragline — a Monighan which the workers call The Gentleman and which came to a sudden halt in its Goliath-like operations some weeks ago when a major bankslide left it stranded on the shore of the south channel of the river.

The big dragline, with a 14-ton bucket—big enough to drive a pick-up truck into—skidded down its own machine-made hill 300 ft. into the south channel when the glacial till of the bank gave way. Hundreds of tons of the hill slid back into the river which was being cleared as part of the job.

Now it's planned to use bulldozers to taper down the steep slope and to build up a stable ramp so that the huge machine can be backed up under its own power and put to work again on clearing 3 million cu. yds. from a 3-mile strip of the 10-mile Long Sault canal. A small cofferdam may have to be built round it and the area pumped dry.

This is the machine which grabs 15-cu. yd. bites of rock and earth every 48 seconds and with a mighty swing of its 165-ft. boom dumps the 20-ton load well clear of the canal edge.

It took more than two months to move the machine 18 miles overland from its previous location in Kentucky to the Green River where it and a smaller dragline were loaded on tandem barges and floated through the Ohio, Mississippi and Illinois rivers, navigating 16 locks en route to the Seaway.

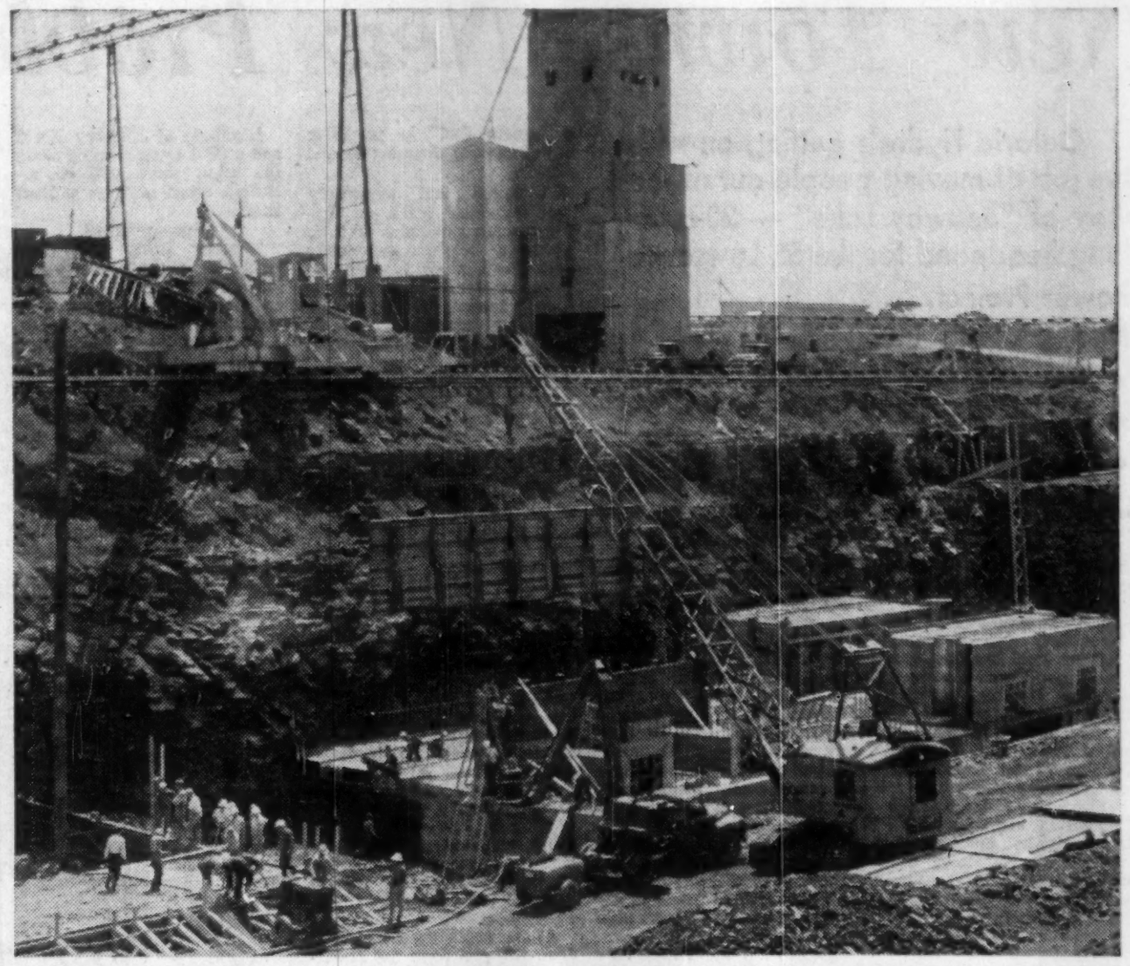
On arrival at Long Sault Island, The Gentleman used its own bucket to build a ramp to the barge and then moved off under its own power.

Also on the American side is a hydraulic dredge which employees of the Peter Kiewit company assembled on a metal barge in a meadow west of the old Robinson Bay road. It was floated down to dig out the seaway channel between the Eisenhower and Grasse River locks.

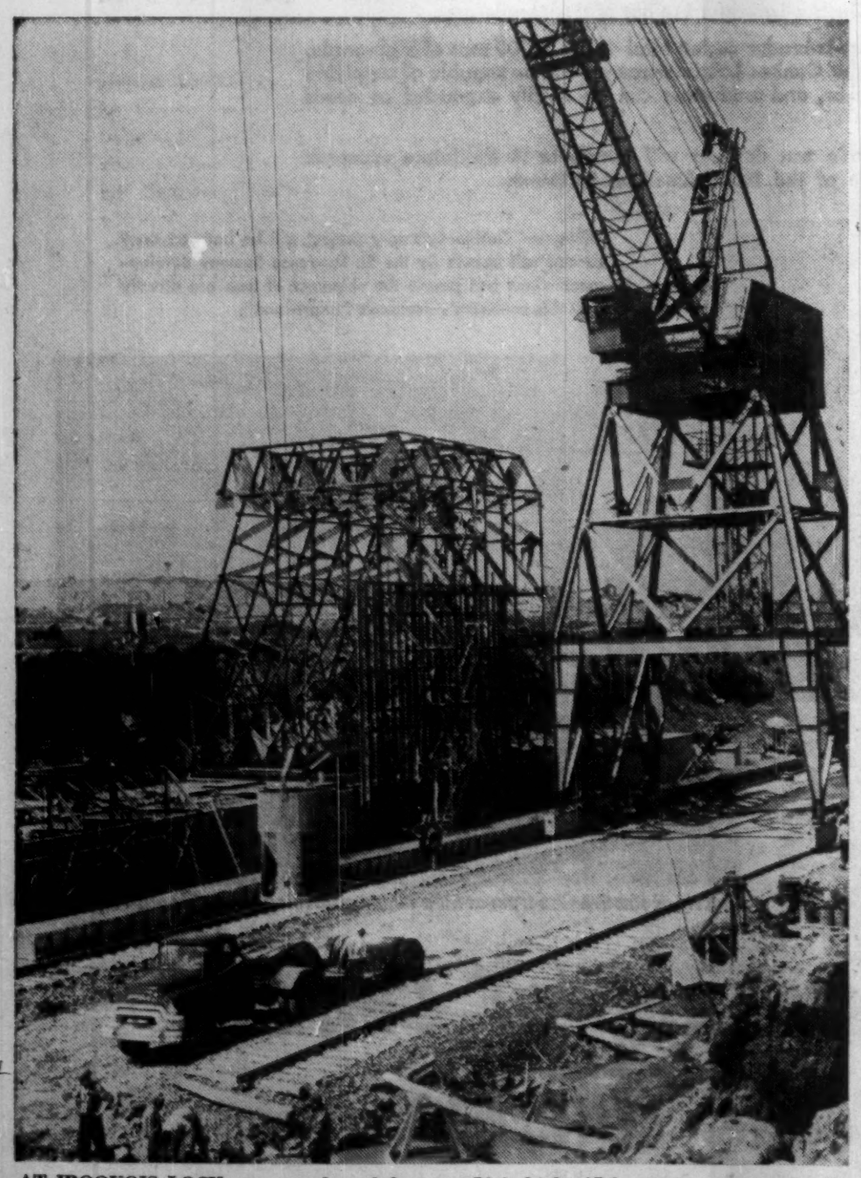
The barge is 80 ft. long and 35 ft. wide and came to Massena in pieces from both Omaha, Neb., and from East Gary, Ind.

The dredge has an eggbeater type cutter attached to the bow. Called a basket cutter, the huge slowly turning knife cuts up the canal-way as the suction pump pulls the material up and out.

The pump has a 1,000 h.p. electric motor operating the 18-in. suction pump.



ST. LAMBERT LOCK begins to take shape. The tower in the background is the concrete mixing plant for the lock.

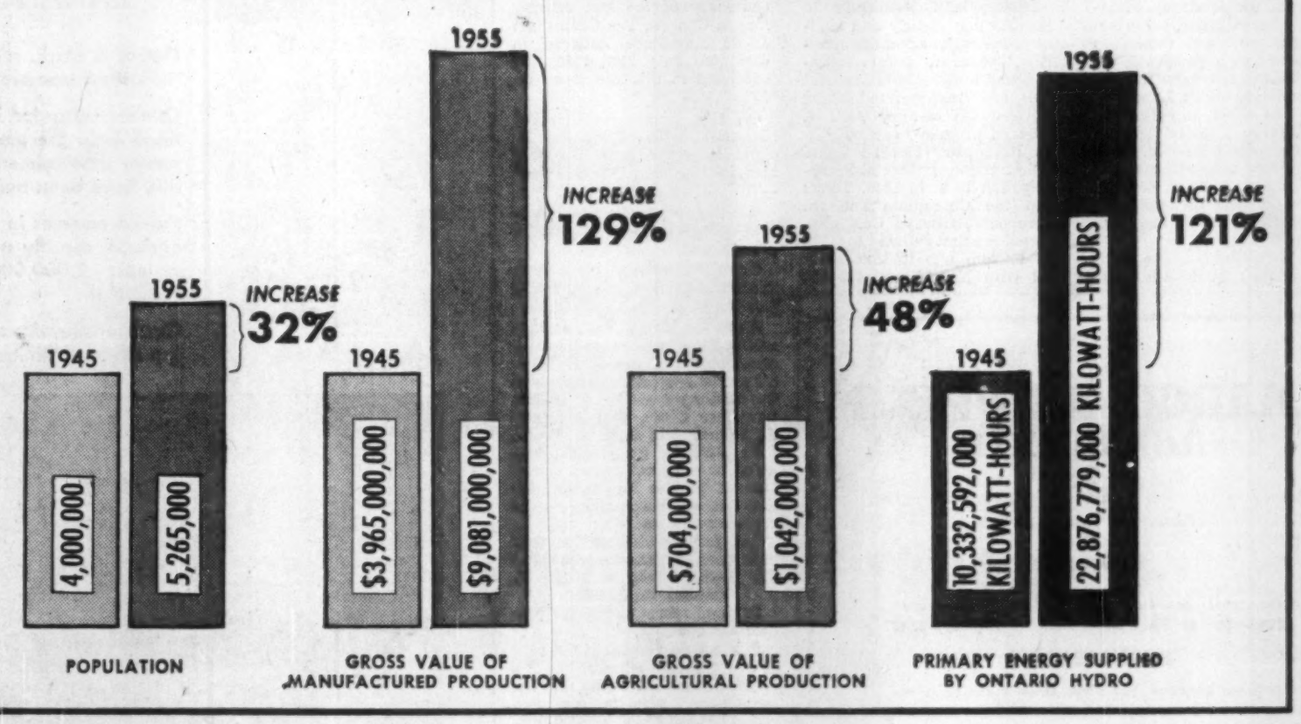


AT IROQUOIS LOCK, structural steel forms a 50-ft.-high, 45-ft.-wide tower, to take the concrete of the approach walls. A 250-ton gantry crane helps pour 3,000 tons of concrete a day. The wall will take 625,000 tons in all.

ONTARIO HYDRO

Power for Progress

Economic Growth in Ontario and Primary Energy Supplied by Ontario Hydro 1945-1955



This chart speaks for itself and points to the vital role Hydro has played in Ontario's progress. It has been Hydro's ability to anticipate and meet requirements for electricity which has helped this province to expand its economy to the present high record level and enabled Ontario to play an increasingly important part in the accelerated growth of national production.

Since 1945, Ontario Hydro has increased dependable peak capacity by 134% and now has under way new installations which, by 1960, will bring the total increase over the 1945 figure to 205%.

This continuing policy of expansion assures Ontario's electrical future . . . presents new opportunities and helps to provide a higher standard of living for all.

ONTARIO HYDRO

New Towns, New Problems on Seaway Shore

Ontario Hydro's getting on with the job of moving people out of the way of "Seaway Lake" — 20-mile-long headpond for the St. Lawrence Power Project.

Here's what's involved:

- **Flooding seven villages**
- **Creating three new towns**
- **Moving 6,500 people**

In 1958 the turbulent International Rapids section of the St. Lawrence River is scheduled to become a headpond 20 miles long for a 2.2 million hp. hydro development.

Some 6,500 people will have to be moved. The machinery for moving them has been giving out sparks and its gears have been clanking; but it's grinding steadily along its course. Indications are the schedule will be met.

Creation of the huge man-made lake will involve:

—Flooding of 38,000 acres of Ontario's and New York State's richest and oldest-settled lands containing 459 farms (Ontario 20,000 acres, 234 farms; New York 18,000 acres, 225 farms);

—Flooding of seven Canadian villages—Iroquois, Aultsville, Farran's Point, Dickinson's Landing, Wales, Moulinette and Mille Roches, and the building of three new communities, complete with municipal offices, schools, churches, sewer, water and hydro services, to house the residents;

—Partial flooding of an eighth Canadian village, Morrisburg, and reconstruction of the flooded portion on nearby high ground;

—Re-location of highways, railroad tracks and, in some cases, of cemeteries and churches;

—Building of the power structures, dikes, powerhouse and two huge control dams.

The Seaway Power Project will cost $600 million, plus. It's a joint effort of the Ontario Hydro Commission and the New York State Power Authority who will equally divide all costs of construction, maintenance and operation, excepting costs of powerhouse equipment. The international boundary will bisect the powerhouse. Canada and the U. S. will jointly operate their respective power facilities and split 50-50 the 2.2 million hp. generated.

New York State Power Authority is handling the major portion of the engineering work; the very difficult social and psychological task of relocating the 6,500 people is being done by Ontario Hydro.

What Hydro Has Done

Here's what Hydro has accomplished so far:

- Convinced the majority of the 6,500 that it will give them a "square deal" in providing substitutes for their homes and lands.
- Produced and apparently "sold" detailed plans, employing modern principles of town planning, for three completely new communities to take the places of the seven to be completely flooded; "sold" a similar plan for Morrisburg to be reconstituted after the partial flooding.
- Made a substantial start on each of the three new communities and the new Morrisburg.
- Let contracts for most of the work involved in 35 miles of new main highway and 40 miles of railroad.

Of the four, the first is probably the most important; it was the most difficult. Three of the villages, Aultsville, Farran's Point and Dickinson's Landing, were first settled by United Empire Loyalists. Many of the people to be moved will be leaving the fields their grandfathers and great-grandfathers filled, the churches in which they were christened and named; homes in which they lived.

The International Rapids section of the St. Lawrence runs 47 miles from the western end of Lake St. Francis to Chimney Point, near Prescott, Ont. Cornwall, Ont., future headquarters of the St. Lawrence Seaway Authority, is just west of Lake St. Francis.

At Cornwall, the Long Sault Dam will run from the American mainland to Barnhart Island; the powerhouse divided by the international boundary will run from the foot of the island to the Canadian mainland. This will back the river up into the 20-mile "Seaway Lake," flooding the villages on the north shore of the St. Lawrence. An upper control dam will be located at Iroquois, Ont.

Roadbeds of Highway No. 2 and a CNR track running along the south shore will be relocated north of their present sites.

"Seaway Lake"

"Seaway Lake" will flood completely the old built-up section of Iroquois. A new town to provide for an increase of population from the present 1,100 to 10,000 is being built north of the present town but still within the corporate limits.

The lake will cover the waterfront business section and some houses at Morrisburg, to the east. A new subdivision to house the flooded portion is being built east of the present built-up area; the new Morrisburg is planned for a population increase from the present 1,800 to 12,000.

The next four villages east, Aultsville, Farran's Point, Dickinson's Landing, and Wales are to be completely flooded; they'll be replaced by a new community on rolling terrain northeast of the present Farran's Point. Known definitely now only as "New Town No. 1," it's planned for a present population of 1,000, (about 250 from each of the villages) and for future expansion to 7,000.

Still farther east, Moulinette (population 700) and Mille Roches (400) also will be swallowed up by Seaway Lake and they'll be replaced by "New Town No. 2," known tentatively as "Long Sault," planned to hold the 1,100 now, for a future expansion to 3,000.

In addition to the people living in the villages there are perhaps 2,500 living outside on farms or various types of homesteads which will be flooded.

Ontario Hydro is:

—Buying farms, houses and business properties.

—Building the new communities.

—Moving houses to the new communities.

—Renting out houses and business properties in the new communities to residents who want it that way.

Here's what's been accomplished so far:

Property Deals. About 1,200 property deals completed by negotiation — and the apparent attainment of mutual satisfaction on both sides. Hydro hasn't, except in isolated cases, revealed the prices it's paying for properties, on the principle that negotiation between the commission and the owner is a private matter. The commission maintains a resident property officer in the valley and calls in independent appraisers. There is an undisclosed—but probably quite substantial — number of holdouts; one case this fall is going to the Ontario Municipal Board.

Iroquois. This was the first project initiated by the commission; house - moving, on huge Harteshorne house-movers which cradle the houses within a steel frame and pick them hydraulically, began last summer. By early this summer, Iroquois' entire residential district was on the new location; 146 houses had been moved and about 100 dwelling units in the old village torn down.

Houses were planked onto new foundations provided by Hydro; new porches and garages replaced old. Modern furnaces were provided at cost far below prices the householder would pay for a new heating plant. Houses were painted and Hydro provided a complete set of municipal services, water, sewer and electricity.

The new Iroquois is now being landscaped and an attempt is being made to slope the storm-water ditches with a good grass bed. About 65% of a planned 33,500 feet of sidewalks have been built and about 27,000 feet of streets are laid out but not paved.

Iroquois' business district is still on the old location, but a

(Continued on page 63)

Seaway Puts New Glint On 'Golden Triangle'

Life in a once peaceful, slumbering farming area on the South Shore of Montreal is gradually and steadily being transformed into a new industrial complex.

Spanking new shopping centres are springing up. New housing developments are growing. Real estate values are soaring and on land fronting the waterway it is difficult, or almost impossible, to buy.

There are many reasons for this growth. In part, the outgrowth occurring in all the Montreal area, the tendency of industry to decentralize, suburban living has attracted thousands and new towns have sprung up.

But the major reason for this development is the St. Lawrence Seaway. In effect, it will place the navigation channel leading to-and-from the inland St. Lawrence system beside the entire length of the northern flank of the St. Lawrence-Richelieu triangle, between Sorel and Valleyfield.

The South Shore is the territory stretching from Valleyfield, west of Montreal, to Sorel on the east and extending along the Richelieu River as far as the Canadian-U. S. border.

It forms a right triangle with its border on the northwest by the St. Lawrence River, on the east by the Richelieu and on the south by the International boundary line. Consequently, it is sometimes called the "St. Lawrence-Richelieu Triangle."

Nobody is betting that it mightn't be a new golden triangle, not only for the South Shore but also Canada.

History and Modernity

So it is that history and modernity, agriculture and manufacturing, peaceful rural settlements and burgeoning industrial towns are linking hand along the twentieth century path of industrial progress.

In its history can be found the first major venture at industrialization back in 1836. That's when the Champlain and St. Lawrence Railway Co. constructed the first railway in Canada. Its aim was to link Montreal with New York, via the river steamers down the Richelieu and Lake Champlain with a short rail trip in the U. S.

The rail link in Canada was 15 miles and stretched between St. Johns at Laprairie where passengers disembarked and crossed the Laprairie Basin by boat. The bold dream failed.

But its memory remains in a simple plaque erected in 1936 on the South Shore near Laprairie.

It reads:

"Tablet commemorating the centenary of the first railway line in Canada, The Champlain & St. Lawrence Railroad in operation July 21st, 1836, and extended to this site, January, 1852."

On this simple stone tablet, like the burial mounds of Indians, is recorded the vision of men, in the phrase "Me Souvien" —"I shall remember."

But the dream of a new industrial empire on the South Shore did not die.

From 1900 onward, plans were started to harness nearby hydro power.

From the turn of the century, many plans were advanced for development of one of the largest power sources in Canada—in the Soulanges section of the St. Lawrence River, between Lake St. Francis and Lake St. Louis.

In 1929, the green light was given to complete power development in the Soulanges section and so Beauharnois Power project was launched.

The project attracted several industries, but for the most part the power flowed to Montreal.

Capital Investment

In more recent times, the picture has changed.

It is estimated that if the rate of construction growth on the South Shore continues at the same pace as in the past two years, by 1960, $200 to $300 million of additional capital investment in new industries and residential and commercial developments will have been made.

Industry is eyeing the South Shore area with active interest. These are some highlights:

—A New York firm is looking into the possibility of building a brick plant based on utilization of "Champlain" clay as raw material.

—An American oil company has purchased 200 acres of land for a large oil terminal. This would be capable of berthing super tankers up to 600 ft. in length, and storing cargoes until required for trans-shipments to smaller vessels.

—**Shawinigan Water and Power Co.** is understood prepared to build a 1,500 ft. dock at Varennes to serve industry when traffic volume is sufficient to warrant such a program. To justify such a wharf, it is considered there would be a need for at least 250,000 tons of traffic annually. At present, **Electric Reduction Co. of Canada** annual traffic amounts to about 70,000 tons and is considered to be the largest single importer-exporter in the area.

—**Ciment Fondu Ltée.** of

(Continued on page 63)

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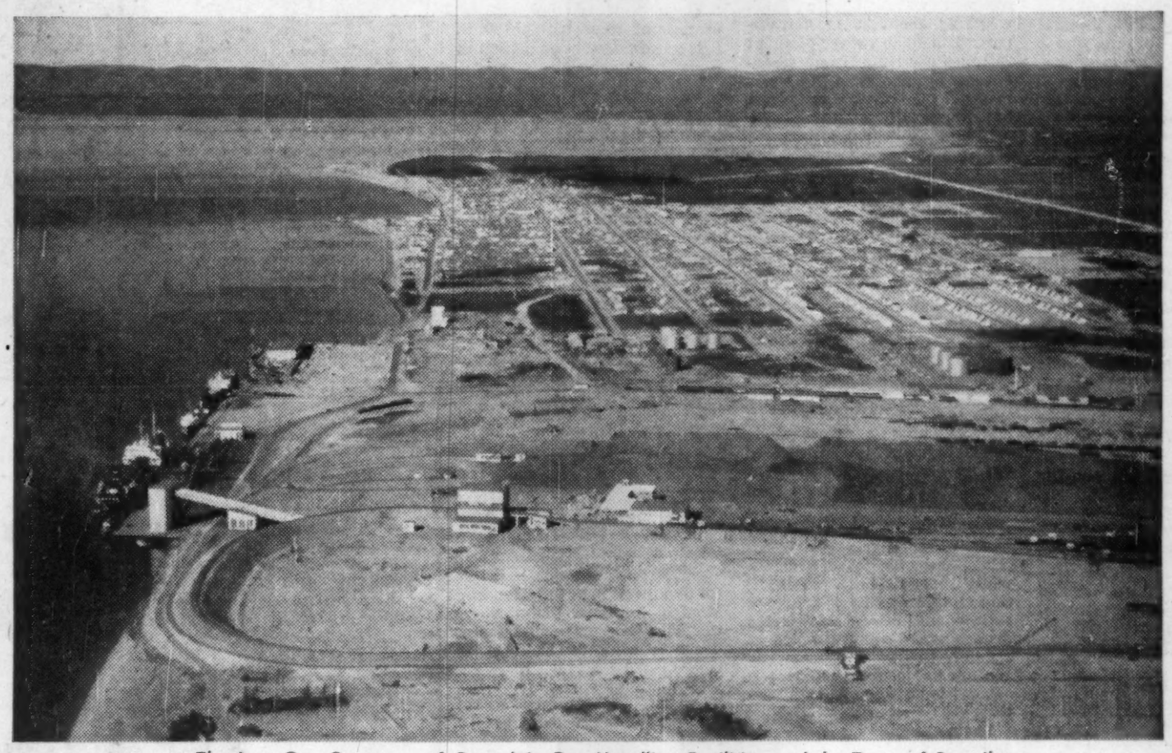


The Iron Ore Company of Canada's Ore Handling Facilities and the Town of Sept-Iles.

Quebec-Labrador

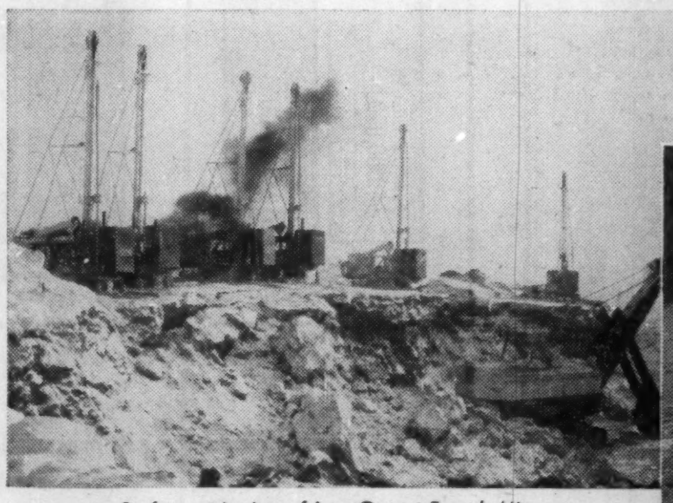
ONE OF THE WORLD'S GREAT MINERAL STOREHOUSES —— ENHANCED BY THE ST. LAWRENCE SEAWAY

Out of a stark, remote wilderness unchanged since the last glaciers receded, one of the richest iron ore producing areas in the world is being swiftly developed.

Quebec-Labrador is a vast region of iron ore deposits stretching hundreds of miles north from the mouth of the St. Lawrence River. There, in the past few years, towns, power developments, a railroad and terminal facilities costing more than $250,000,000 have been built to get Quebec-Labrador ore out of this remote area.

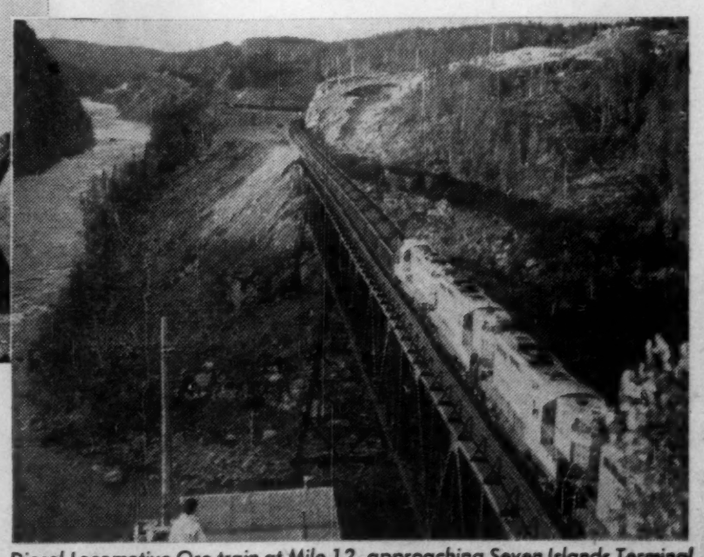
Proved reserves in the Quebec-Labrador region total 417,000,000 tons of high-grade, open-pit ore. By next year the Quebec-Labrador ranges will be capable of supplying at least 12,000,000 tons a year, and production can be swiftly expanded as needs require it.

Quebec-Labrador's high grade ore deposits will contribute to the future economic growth and military defense of the North American continent.



Surface stripping of Iron Ore at French Mine.

This great Quebec-Labrador project will be both an asset to and will benefit by the St. Lawrence Seaway development which will permit the shipment of iron ore directly into this continent's economic "heart-land".



Diesel Locomotive Ore train at Mile 12, approaching Seven Islands Terminal

Iron Ore Company of Canada
Montreal, Quebec

Seaway Flood Spurs Giant Mass Move

(Continued from page 62)

new shopping centre is going up, should be ready in late fall. Businessmen will be offered the choice of selling out and purchasing premises in the centre, or renting in the centre.

Morrisburg. Twelve houses have been moved to make way for a shopping centre; construction of the centre will begin this summer. Work is now under way on a new pumping station and sewage disposal plant. It's planned to start the house-moving operation here next spring.

New Town No. 1. Contracts have been let for water and sewer and for road-building. Osnabruk Township Council has approved 75 applications for new house construction. It's planned to move about 45 houses this winter.

New Town No. 2. It's on this project that this summer's big effort is being made. Most of the streets have been laid out. A pumping station is operating as is a temporary sewage disposal plant. Eight of about 150 houses have been moved to the townsite and it's probable that the remainder will be put in place by the end of the year.

Railroad and Highway. The present Highway No. 2 runs along the St. Lawrence shore, will be flooded at many sections; 35 miles of the highway will be relocated about ½ mile north of the shore. Some 40 miles of CNR track, also running along the river shore and due for flooding, will be relocated about 1½ miles north. Both projects have been divided into sections and contracts for grading and fencing have been let. Some sections of track are already laid.

The relocation has reached its present stage after two years of negotiation and argument running sometimes into acrimony.

Seaway Sinews:

Giant house-moving machines build new villages in Seaway Valley.

Deep Secrecy of Plans

The plan was first revealed — although rumored for years — to the property owners of Seaway Valley in August, 1954, after 18 months of Hydro planning in deepest secrecy. The plans contained suggested town layouts, complete right down to last lot. At that time Hydro promised that it would be "fair, just and equitable" in its acquisition of properties, but it didn't specify principles of compensation.

Perhaps because there had been little attempt to "sell" the proposals in advance, many of the residents reacted with harsh words. Alleged news of property deals began to trickle out, and the words became harsher. Delegations traveled back and forth to Toronto to interview Hydro officials. In Iroquois and Morrisburg a dozen alternatives to the Hydro plans were proposed and discussed.

Perhaps because Hydro prices for land went up, perhaps because residents became convinced that the commission was really trying to be "just, fair and equitable," the resentment is apparently dying down. The example of the new Iroquois, farthest-advanced of the projects, has done much to allay fears. The plans, as originally produced, and with only minor modifications, are going forward.

R. H. Armstrong, village solicitor of Morrisburg, prominent in opposition to Hydro in the last two years, now agrees that Hydro has done a good job of moving the Iroquois houses.

People Are Better Off

"Iroquois is now a better-looking place than it used to be and I think Morrisburg will be the same when this moving is over. Everyone may not agree with this—there is much criticism of the open ditches, for example. But I think Hydro is trying to treat us well, probably because we stood up to them and declined to co-operate if they didn't."

Hydro spokesmen contend that "a good many" Seaway Valley people will be better off after the move than before it.

"Iroquois and Morrisburg before the move," runs the Hydro argument, "had old systems of municipal services; soon they'll have completely new ones. Residents of the small villages, Aultsville, Farran's Point, Dickinson's Landing, Wales, Moulinette and Mille Roches, didn't have any municipal services at all. Soon the latter will have services they never had before.

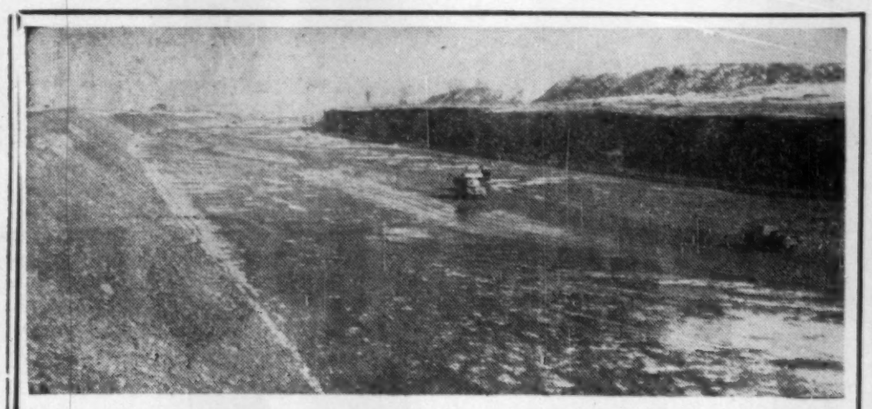
"In the six little villages, very few houses had inside plumbing. In each of the houses that we move we're installing inside plumbing — toilet and wash-basin — free of charge.

"Besides this, each of the four communities, Iroquois, Morrisburg and New Towns 1 and 2, will get new municipal buildings, schools and churches."

Some aspects of the relocation project are still "up in the air."

—Plans and location of Cornwall's new CNR station—made necessary by the railroad relocation—have been turned down by city council pending possible improvements in passenger facilities;

—The property case going this fall to the Ontario Municipal Board is seen likely to prejudice further Hydro property transactions, as it will likely force the commission to disclose the principles on which it made the disputed valuation.



Section of the St. Lawrence Seaway Channel completed 8½ months ahead of schedule.

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Growth Soars in 'Triangle'

(Continued from page 62)

Paris has bought 30 acres of land at Varennes but whether the company will build a cement factory there is still uncertain.

—**Joseph Elie Co.** has purchased a neighboring site, presumably for a large oil terminal which could be used to supply new plants with fuel oil.

—A U. S. steel firm has recently taken an option on a large block of land in the Contrecoeur area.

—**Procter & Gamble** has options on land at Varennes, and also Pointe Claire. A decision is expected in the near future and it is rumored the company will build a plant to produce fat and vegetable oil if it takes the land.

These are reasons why industry is being attracted to the South Shore:

—Ample power: **Shawinigan Water & Power Co.** supplies a large amount of power there already. As much as 10% of the power output of the province, it is said, could be routed there.

—Dock facilities: **Iron Ore Co. of Canada** has built one transshipment point at Contrecoeur. The building of other docks presents no particular problems because the bottom of the river is clay and dredging can be carried out easily.

—Proximity to Montreal: The region is close to Montreal, which has the greatest concentration of population in Canada and makes available a large potential market for products.

—Labor pool: There is ample skilled and unskilled labor in the metropolitan Montreal area.

—Taxes are low: This is because the region generally is considered rural and municipalities are anxious to encourage industrial development.

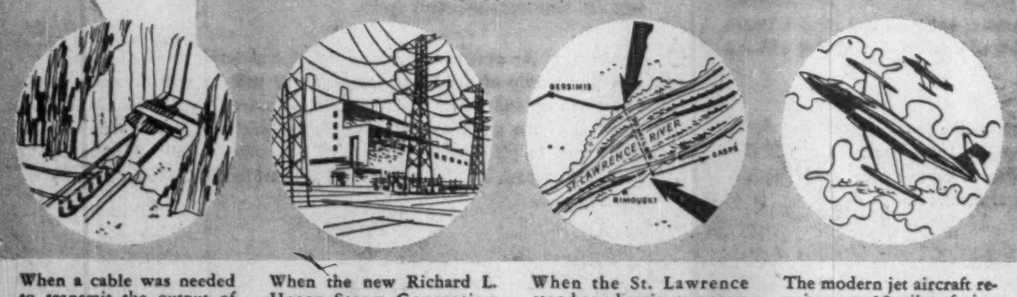
—Decentralization of industry: This trend is becoming more pronounced as land becomes more difficult to obtain for certain types of industry in Montreal.

If you needed a starting point, you might say it all began at Craigellachie, B.C. on November 7th, 1885. In this tiny village the hammer blows that drove home the last spike of the Canadian Pacific Railway resounded around the world to announce the "coming of age" for Canadian engineers. Since that time, there have been many notable "Canadian" engineering achievements. The ingenuity that resulted in the telephone and the incandescent light has been a rich inheritance upon which to build. Shipsaw compares on all counts with any power project in the world. The Orenda jet engine and the CF 100 that it powers have blazed a trail across the pages of world aviation history. And now we talk of whole new towns to be planned on the new banks of a St. Lawrence that will be most unfamiliar to the ghost of Champlain —a St. Lawrence that will open the Canadian interior to the traders of the world and supply Canadian industry with the power to produce the needs of the world.

Canadian Engineers have been "Major League" for 69 years

CANADA WIRE ENGINEERS HAVE BEEN SETTING THE PACE

The complex projects of Canadian engineering development become simpler with the assistance of specialists at Canada Wire who have solved countless problems in high voltage power transmission and the development of every type of electrical conductor.



When a cable was needed to transmit the output of two 106,000 h.p. generators from the transformers in the heart of a mountain 2,000 feet through a cable tunnel to the high-voltage switchyard at Alcan's Kemano River basin, Canada Wire engineers produced one. This cable is single conductor 301 kv. All-Aluminum oil-filled cable; hollow core conductor, low-viscosity, oil-impregnated paper, seamless Aluminum Sheath. This is the first 301 kv. cable system designed in the British Commonwealth.

When the new Richard L. Hearn Steam Generating Station, first of its type in Canada, was completed at Toronto, Canada Wire engineers produced two high voltage underground cable circuits 120 and 161 kv. to deliver 60-cycle power underground to the Leaside-Thorncliffe Transformer Station. The hollow conductors used facilitated both the charging of the system and the maintaining of the insulation under nitrogen gas pressure.

When the St. Lawrence stood as a barrier to power transmission (a distance of 32 miles underwater) from Bersimis on the north shore of the river to the great new copper mining area in the Gaspé, Canada Wire engineers became pioneers both in design of the submarine cable, its manufacture, the unique "flaking down" and wharf handling procedures and the underwater installation. This is the largest high-voltage submarine cable system in the world.

The modern jet aircraft requires over 12 miles of wire. High tension cables for engine and ignition systems, low tension cables, conductors carrying current to fire rocket charges, and steel wire control cables all provide the muscles and the nerves for Canada's aircraft. Canada Wire is engineering and producing these essentials which are fulfilling the "rigid performance specifications" necessary to meet the demand for greater speed, greater safety and manoeuvrability.

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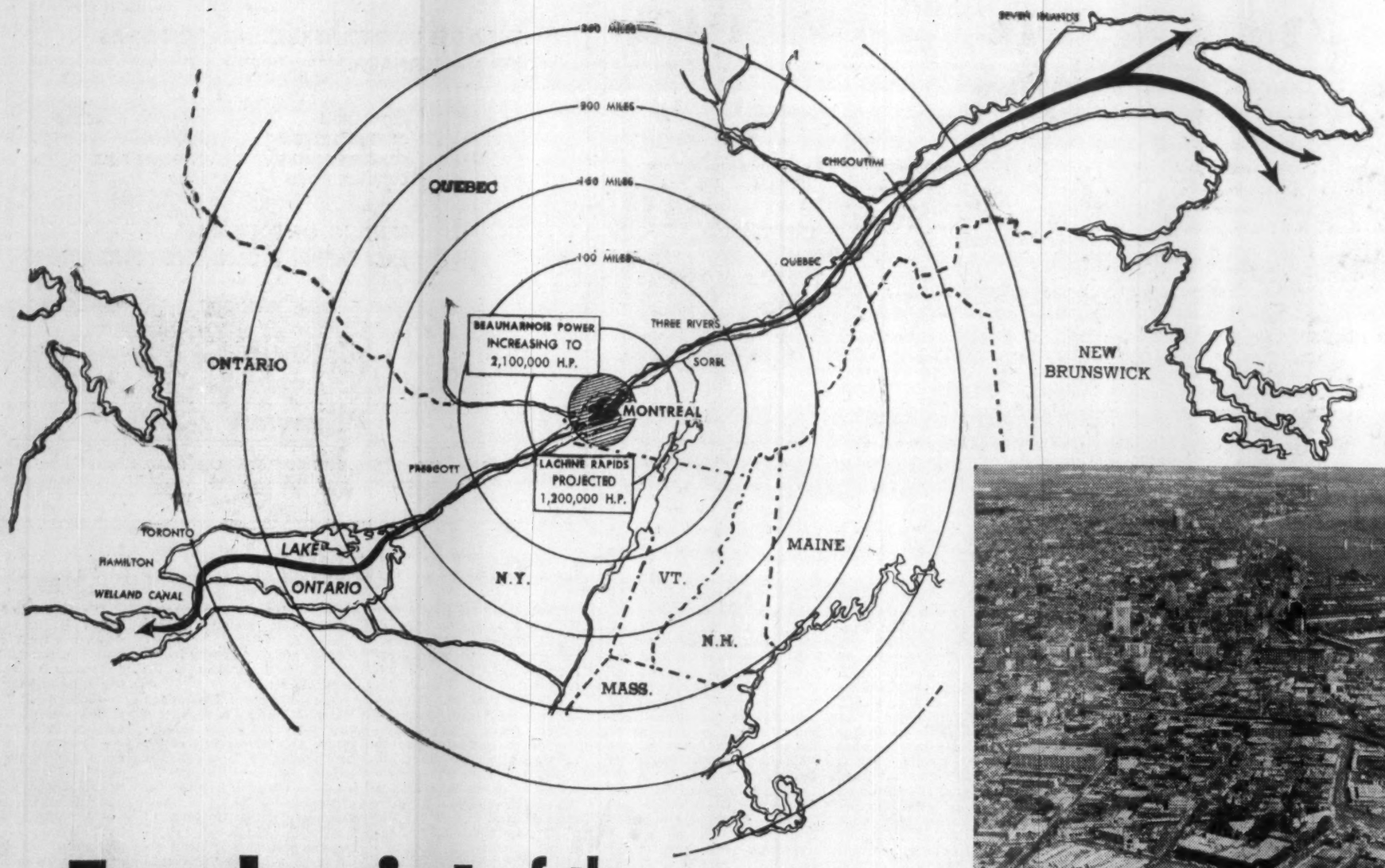
THE PORT OF MONTREAL



Focal point of the ST. LAWRENCE SEAWAY

Gateway to the St. Lawrence Seaway, the Port of Montreal's facilities will keep pace with growing needs. With Montreal the centre of a giant and expanding network of hydro electric energy, industrial opportunity matches the superb location of the whole Montreal region.

Here's Why the Seaway will benefit Montreal

1. From earliest days Montreal has been a crossroads of travel and commerce. Its unique geographic location has made it the focal point from whence a great network of rail, highway, air and inland water routes span Canada from one ocean to another.

   The opening of the St. Lawrence Seaway will consolidate and enhance Montreal's traditional and strategic role as Canada's major Atlantic port and terminus besides opening up an enlarged avenue of commerce to and from the inland waters of the Great Lakes and the Canadian West.

2. While the Montreal Region is the Port of Montreal's best customer (two-thirds of the commerce moving through the Port originates in or is destined to the Montreal Region) its function as a national port for the trans-shipment of goods to and from all parts of Canada will *increase* with the completion of the Seaway.

3. Already the largest grain shipping port of the world, the 27-foot depth of the Seaway will make it even greater. Large upper-lakers will discharge their cargoes direct at Montreal elevators thus increasing the volume of ocean grain trans-shipped at Montreal.

4. Similarly, the 35 foot depth of the St. Lawrence Ship Channel between Montreal and the Atlantic enables fast passenger liners and the world's largest cargo liners and tankers to manoeuvre easily and safely between the open sea and Montreal's extensive and expanding harbour area.

5. Frequency and diversity of sailings to and from all parts of the world, fast and efficient port handling, the fact that Montreal is two days nearer to the ocean, as well as other considerations — all of which find reflection in shipping time and shipping costs — means savings to shippers and better service to consignees. It is such considerations that establish the Port of Montreal as Canada's Number One passenger and cargo terminal and trans-shipment centre.

6. Confident of the continuing dynamic growth and development of Canada and particularly of the St. Lawrence Valley with its vast resources of forest and mineral wealth and hydro electric power, the Montreal Region is proud of the great and expanding role which the Port of Montreal is destined to play in the economy of the nation — all added to by Montreal's superb location as the focal point of the St. Lawrence Seaway development.

SHIP VIA MONTREAL . . . AND BE SURE!

for facts and figures, write:

ST. LAWRENCE MUNICIPAL BUREAU of the *CITY OF MONTREAL*

A civic bureau established to promote and develop the Port and Region of Montreal

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